

Man: Hieroglyph of the Universe

By Rudolf Steiner

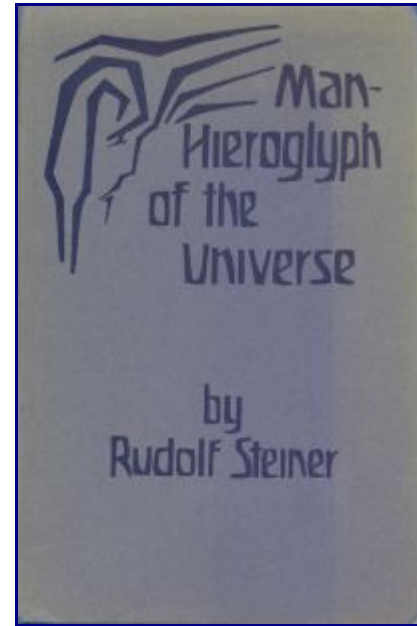
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Translated from shorthand reports unrevised by the lecturer. In the Complete Edition of the works of Rudolf Steiner the original German text is published with the title: *Entsprechungen zwischen Mikrokosmos und Makrokosmos. Der Mensch — eine Hieroglyphe des Weltenalls*. (No. 201 in the *Bibliographical Survey*, 1961).

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RUDOLF STEINER

**Man: Hieroglyph of
the Universe**

Sixteen Lectures given in Dornach, Switzerland,
between 9th April to 16th May 1920

Translated by George and Mary Adams

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The following lectures were given by Rudolf Steiner to an audience familiar with the general background of his anthroposophical teachings. He constantly emphasised the distinction between his written works on the one hand, and, on the other, reports of lectures which were given as oral communications and were not originally intended for print. It should also be remembered that certain premises were taken for granted when the words were spoken. "These premises," Rudolf Steiner writes in his autobiography, "include at the very least the anthroposophical knowledge of Man and of the Cosmos in its spiritual essence; also of what may be called 'anthroposophical history', told as an outcome of research into the spiritual world."

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A list of publications in English translation suggested for study in connection with the following lectures, and a summarised plan of the Complete Edition of Rudolf Steiner's works in the original German will be found at the end of this volume.

LECTURE ONE

Today I shall try to give a wider view of a subject already often touched upon. I have frequently pointed out how, for modern man, moral and intellectual conceptions diverge. On the one hand we are brought, through intellectual thinking, to recognition of the stern Necessity of Nature. In accordance with this necessity we see everything in Nature under the law of Cause and Effect. And we ask also, when man performs an action: what has caused it, what is the inner or outer cause? This recognition of the necessity for all events has in modern times acquired a more scientific character. In earlier times it had a more theological character, and has so still for many people. It takes on a scientific character when we hold the opinion that what we do is dependent on our bodily constitution and on the influences that work upon it. There are still many people who think that man acts just as inevitably as a stone falls to the ground. There you have the natural scientific colouring of the Necessity concept. The view of those more inclined to Theology might be described as follows. Everything is fore-ordained by some kind of Divine Power or Providence and man must carry out what is predestined by that Divine Power. Thus we have in the one case the Necessity of natural science, and in the other case unconditioned Divine Prescience. One cannot in either case speak of human Freedom at all.

Over against this stands the whole *Moral* world. Man feels of this world that he cannot so much as speak of it without postulating the freedom of the decisions of his will; for if he has no possibility of free voluntary decision, he cannot speak of a morality of human action. He does however feel responsibility, he feels moral impulses; he must therefore recognise a moral world. I have mentioned before how the impossibility of building a bridge between the two, between the world of Necessity and the world of Morals, led Kant to write two critiques, the *Critique of Pure Reason* in which he applies himself to investigating the nature of simple Necessity, and the *Critique of Applied Reason* in which he inquires into what belongs to Moral Cosmogony. Then he felt compelled to write also a *Critique of Judgement* which was intended as an intermediary between the two, but which ended in being no more than a compromise, and approached reality only when it turned to the world of *beauty*, the world of artistic creation. This goes to show how man has on the one side the world of Necessity and on the other the world of Free Moral Action, but cannot find anything to unite the two except the world of Artistic Semblance, where — let us say, in sculpture or in painting — we appear to be picturing what comes from Natural Necessity, but impart to it something which is free from Necessity, giving it thus the appearance of being *free in Necessity*.

The truth is, man is not able to build a bridge between the world of Necessity and the world of Freedom unless he finds the way through Spiritual Science. Spiritual Science, however, requires for its development a fulfilment of the aphorism which won respect centuries ago, the saying of the Greek Apollo: "Know thyself!" Now this admonition, by which is not intended a burrowing into one's own subjectivity but a knowledge of the whole being of man and the position he occupies in the Universe—this is a search that must find a place in our whole spiritual life.

From this point of view we may really say that the course taken by the development of the spiritual Movement directed to Anthroposophy has in the last few days taken a step forward; it has begun to show clearly to the spiritual life of humanity, how we must seek to illuminate modern methods of thought with a knowledge of Man; for it is a fact that the knowledge of Man has to a very great extent been lost in modern times. This was our aim in the course of lectures that has just been held for doctors, where an initial attempt was made to throw light in a positive way upon matters with which medical science has to concern itself. [*Published by *Rudolf Steiner Nachlassverwaltung*, Dornach, 1961, (third edition) with the title: *Geisteswissenschaft und Medizin*. English translation (now out of print) entitled: *Spiritual Science and Medicine*, can be borrowed from the Library, Rudolf Steiner House, London, N.W.1.] In the series of lectures given by our friends and myself, we tried to show how a connection must be made between the individual sciences and what these can receive from Spiritual Science. It is very desirable that within our Movement there should be a strong consciousness of the need for such attempts; for if we are to succeed it is absolutely necessary to make clear to the outer world — in a sense, to compel it to understand — that here no kind of superficiality prevails in any domain, but rather an earnest striving for real knowledge. This is often hindered by the way in which things reach the public from our own circles, so that it is supposed, or may easily be maliciously pretended, that all kinds of sectarianism and dilettantism are allowed

here. It is for us to convince the outer world more and more how earnest is the striving underlying all that this Movement represents. Such attempts must be carried further afield, and they must be carried further by the forces of the whole Anthroposophical Movement; for we have now made a beginning with a true knowledge of Man which must form the foundation of all true spiritual culture. It is true to say that from the middle of the fifteenth century, man's earlier concrete relation to the world has been growing more and more abstract. In olden times, through atavistic clairvoyance man knew much more of himself than he does today, for since the middle of the century intellectualism has spread over the whole of the so-called civilised world. Intellectualism is based upon a very small part in the being of Man, a very small part; and it produces accordingly no more than an abstract network of knowledge of the world.

What has knowledge of the world become in the course of the last centuries? In its relation to the Universe, it has become a mere mathematical-mechanical calculation, to which in recent times have been added the results of spectra analysis; these again are purely physical, and even in the physical domain, mechanical-mathematical. Astronomy observes the courses of the stars and calculates; but it notices only those forces which show the Universe, in so far as the Earth is enclosed in it, as a great machine, a great mechanism. It is true to say that this mechanical-mathematical method of observation has come to be regarded simply and solely as the only one that can actually lead to knowledge.

Now with what does the mentality which finds expression in this mathematical-mechanical construction of the Universe reckon? It reckons with something that is founded to some extent in the nature of Man, but only in a very small part of him. It reckons first with the abstract *three dimensions of space*. Astronomy reckons with the abstract three dimensions of space; it distinguishes one dimension, a *second* (drawing on blackboard) and a *third*, at right angles. It fixes attention on a star in movement, or on the position of a star, by looking at these three dimensions of space. Now man would be unable to speak of three dimensional space if he had not experienced it in his own being. Man *experiences* three-dimensional space. In the course of his life he experiences first the vertical dimension. As a child he crawls, and then he raises himself upright and experiences thereby the vertical dimension. It would not be possible for man to speak of the vertical dimension if he did not experience it. To think that he could find anything in the Universe other than he finds in himself would be an illusion. Man finds this vertical dimension only by experiencing it himself. By stretching out our hands and arms at right angles to the vertical we obtain the second dimension. In what we experience when breathing or speaking, in the inhaling and exhaling of the air, or in what we experience when we eat, when the food in the body moves from front to back, we experience the third dimension. Only because man experiences these three dimensions within him does he project them into external space. Man can find absolutely nothing in the Universe unless he finds it first in himself. The strange thing is that in this age of abstractions which began in the middle of the fifteenth century, Man has made these three dimensions homogeneous. That is, he has simply left out of his thought the concrete distinction between them. He has left out what makes the three dimensions different to him. If he were to give his real human *experience*, he would say: My perpendicular line, my operative line, my extensive or extending line. He would have to assume a difference in quality between the three spatial dimensions. Were he to do this, he would no longer be able to conceive of an astronomical cosmogony in the present abstract way. He would obtain a less purely intellectual cosmic picture. For this however he would have to experience in a more concrete way his own relationship to the three dimensions. Today he has no such experience. He does not experience for instance the assuming of the upright position, the being in the vertical; and so he is not aware that he is in a vertical position for the simple reason that he *moves together with the Earth* in a certain direction which adheres to the vertical. Neither does he know that he makes his breathing movements, his digestive and eating movements as well as other movements, in a direction through which the Earth also moves in a certain line. All this adherence to certain directions of movement implies an adaptation, a fitting into, the movements of the Universe. Today man takes no account whatever of this concrete understanding of the dimensions; hence he cannot define his position in the great cosmic process. He does not know how he stands in it, nor that he is as it were a part and member of it. Steps will have now to be taken whereby man can obtain a knowledge of Man, a self-knowledge, and so a knowledge of how he is placed in the Universe.

The three dimensions have really become so abstract for man that he would find it extremely difficult to train himself to feel that by living in them he is taking part in certain movements of the Earth and the planetary system. A spiritual-scientific method of thought however can be applied to our knowledge of Man. Let us therefore begin by seeking for a right understanding of the three dimensions. It is difficult to attain; but we shall

more easily raise ourselves to this spatial knowledge of Man if we consider, not the three lines of space standing at right angles, but three level planes. Consider for a moment the following. We shall readily perceive that our *symmetry* has something to do with our *thinking*. If we observe, we shall discover an elementary natural gesture that we make if we wish to express decisive thinking in dumb show. When we place the finger on the nose and move through this plane here (a drawing is made), we are moving through the vertical symmetry plane which divides us into a left and a right Man. This plane passing through the nose and through the whole body, is the plane of symmetry, and is that of which one can become conscious as having to do with all the discriminating that goes on within us, all the thinking and judging that discriminates and divides. Starting from this elementary gesture, it is actually possible to become aware of how in all one's functions as Man one has to do with this plane.

Consider the function of seeing. We see with two eyes, in such a way that the lines of vision intersect. We see a point with two eyes; but we see it as one point because the lines of sight cross each other, they cut as shown in the drawing. Our human activity is from many aspects so regulated that we can only understand its regulation by reference to this plane.

We can then turn to another plane which would pass through the heart and divide man back from front. In front, man is physiognomically organised, behind he is an expression of his organic being. This physiognomical-psychic structure is divided off by a plane which stands at right angles to the first. As our right and left man are divided by a plane, so too are our front and back man. We need only stretch out our arms, our hands, directing the physiognomical part of the hand (in contrast to the merely organic part) forwards and the organic part of the hands backwards, and then imagine a plane through the principal lines which thus arise, and we obtain the plane I mean.

In like manner we can place a third plane which would mark off all that is contained in head and countenance from what is organised below into body and limbs. Thus we should obtain a third plane which again is at right angles to the other two.

One can acquire a feeling for these three planes. How the feeling for the first is obtained has already been shown; it is to be felt as the plane of discriminative *Thinking*. The second plane, which divides man into front and back (anterior and posterior) would be precisely that whereby man is shown to be *Man*, for this plane cannot be delineated in the same way in the animal. The symmetry plane can be drawn in the animal but not the vertical plane. This second (vertical) plane would be connected with everything pertaining to human Will. The third, the horizontal, would be connected with everything pertaining to human *Feeling*. Let us try once more to get an elementary idea of these things and we shall see that we can arrive at something by this line of thought.

Everything wherein man brings his feeling to expression, whether it be a feeling of greeting or one of thankfulness or any other form of sympathetic feeling, is in a way connected with the horizontal plane. So too we can see that in a sense the will must be brought into connection with the vertical plane mentioned. It is possible to acquire a feeling for these three planes. If a man has done this, he will be obliged to form his conception of the Universe in the sense of these three planes — just as he would, if he only regarded (the three dimensions of space in an abstract way, be obliged to calculate in the mechanical-mathematical way in which Galileo or Copernicus calculated the movements and regulations in the Universe. Concrete relations will now appear to him in this Universe. He will no longer merely calculate according to the three dimensions of space; but when he has learnt to feel these three planes, he will notice that there is a difference between right and left, over and under, back and front. In mathematics it is a matter of indifference whether some object is a little further right or left, or before or behind. If we *simply measure*, we measure below or above, we measure right or left or we measure forward or backward. In whatever position three metres is set, it remains three metres. At most we distinguish, in order to pass from position to movement, the dimensions at right angles to one another. This we do, however, only because we cannot remain at simple measurement, for then our world would shrink to no more than a straight line. If however, we learn to describe Thinking, Feeling and Willing concretely in these three planes, and to place ourselves thus in space as psychic-spiritual beings, with our Thinking, Feeling and Willing — then just as we learn to apply to Astronomy the three dimensions of space as found in man, so do we learn to apply to Astronomy the threefold division of man as a being of soul and spirit. And it becomes possible if we have here (drawing) Saturn, Jupiter, Mars, Sun, Venus, Mercury and lastly Earth, then it becomes possible, if we look at the Sun, to observe it in its outer manifestation as something separating, as a dividing element. We

must think of a plane passing through the Sun, and we shall no longer regard what is above the plane and what is below as merely dimensional, but must regard the plane as a dividing plane and distinguish the planets as being above or below. Thus we shall no longer say: Mars is so many miles distant from the Sun, Venus so many miles; but we shall learn to apply the knowledge of Man to the knowledge of the Universe, and say: It is no mere question of dimensions when I say that the human head in respect of the nose is at such and such a distance from the horizontal plane which I have called the plane of Feeling, and the heart at such and such a distance; but I shall bring their position and distance above and below into connection with their formation and structure. So too I shall no longer say of Mars and Mercury that the one is at such a distance and the other at such another distance from the Sun, but I shall know that if I regard the Sun as a dividing partition, Mars being above must be of one nature and Mercury being below of another.

I shall now be able to place a similar plane perpendicularly through the Sun. Thus the movements of Jupiter, let us say, or of Mars, will be such that at one time it will stand on the right of this plane and then go across it and stand on the left. If I simply proceed abstractly, according to dimensions, I shall find it is sometimes on the right and sometimes on the left, and such and such a number of miles. But if I study cosmic space concretely, as I must my own being as man, it is not a matter of indifference whether a planet is at one time on the left and at another time on the right, but I say there is the *same kind of difference* whether it is on the right or left as there is between a left and right organ. It is not sufficient to say that the liver is so many centimetres to the right of the symmetrical axis, the stomach so many centimetres to the left, for the two are dissimilar in formation *because* the one is a right organ and the other a left. Here it is so, that Jupiter, according as he is on the right or the left, to the eye appears different.

In the same way I might make a third plane, and must again form a judgement in accordance with that. And if I extend my knowledge of Man to the Universe, I shall be obliged, as I connected the one plane with human Thinking, and the second plane with human Feeling, to consider the third plane as connected with human Will.

By all this I wanted only to show how modern cosmogony has no more than a last remnant of external abstraction when it speaks of the three planes perpendicular to one another, to which the positions and movements of the stars are quite indifferently related, and then according to these positions the whole Universe calculated out as a machine. In the astronomical conception of Galileo, only this one thing is taken into consideration for the Universe — *abstract space*, with its point relationships. This knowledge can however be enlarged to become an active and powerful knowledge of Man. One can say: Man is a thinking, feeling and willing being. As an external being, he is connected by Thinking with one plane, with another at right angles to it by Willing, and with a third at right angles to both by Feeling. This must apply also in the external world. Since the middle of the fifteenth century, man has really known no more than that he extends in three directions; all else is just material collected for observation. A true knowledge of Man must be regained, and indirectly a knowledge of the Cosmos by the same method. Then man will understand how Necessity and Free Will are related, and how *both* can apply to Man, since he is born from the Cosmos. Naturally if one only takes this last remnant of the human being — the three dimensions at right angles to one another — if that is all one wants to imagine, then the Universe appears terribly poor. Poor, infinitely poor is our present astronomical view of the Universe; and it will not become richer until we press forward to a real knowledge of Man, until we really learn to look into Man.

The anthroposophical conception of the universe leads directly into a real spiritual knowledge of the matter. Do not such things as Thinking, Feeling and Willing appear to human knowledge as terribly bare abstractions? Man does not investigate himself thoroughly enough. He does not ask himself what these things are for him to which he applies the words. So much has become mere phrase. One should really ask oneself conscientiously, when using the word Thinking, whether it presents any clear idea — not to speak of Feeling and Willing. But our speech becomes clear and plain, directly we pass from the mere making of phrases, the using of lofty words, and go back to *pictures*; even when we take just that one picture for Thinking — putting the finger to the side of the nose! We do not need to do it always, but we know that this gesture is often naturally made when we have to think hard, just as we point the finger to the chin when we want to indicate we are paying attention! We enter this plane precisely because we wish to judge there concerning something to which we are related. We bisect our organism as it were into right and left; for we really act quite differently with our right and left sense-organs. This we can appreciate if we observe that with the left sense-organ we undertake as it were, the handling of outer

objects; and in our thinking too, there is a sort of handling or feeling of external objects. With the right sense-organ we as it were 'feel our feeling' of them. It is then that they first become our own. We could never have attained to the ego-concept if we were not able to perceive, together with what we experience on the right, also that which we experience on the left. By simply laying the hands one over the other we have a picture of the ego-concept. It is indeed true that by beginning to use clear images instead of living merely in phraseology, man will become inwardly richer and will gain the faculty of visualising the Universe in greater detail.

Having entered on this path, we shall find that the Universe comes to life again for us, and that we ourselves as human beings share in its life. Then we shall learn again how to build a bridge between Universe and Man. When this is done man will be able to perceive whether there is in the Universe an impulse of Natural Necessity for all that is in Man, or whether the Universe in some measure leaves us free; whether it wholly determines us, or leaves us in a certain sense free. As long as we live in abstractions, we cannot build a bridge between Moral and Natural Law. We must be able to ask ourselves how far Natural Law extends in the Universe, and where something enters in which we *cannot include* under the aspect of Natural Law. Then we arrive at a relation which has its significance for Man too, a relation between what comes under Natural Law and what is Free and Moral. In this way we learn to connect a meaning with the statement: "Mars is a planet far from the Sun, Venus a planet nearer the Sun." By simply stating their distances in abstract numbers we have said nothing or at least very little, for to define in this way according to the methods of modern Astronomy, is equivalent to saying: I look at the line which passes through man's two arms and hands, and I speak of an organ that is 2.5 decimetres from this line. — Now this organ may be so and so far under the line, and another organ so and so far above it; it is not, however, the *distance* that makes the difference, but the fact that one organ is *above* and the other *below*. Were there no difference between above and below, there would be no difference between the nose or eyes and the stomach! The eyes are only eyes because they are above, and the stomach is only a stomach because it is below, this line. The inner nature of the organ is conditioned by the position.

Similarly the inner nature of Mars is qualified by its position *outside* the Sun's orbit, and that of Venus by its position *within* the Sun's orbit. If one does not understand the essential difference between an organ in the human head and an organ in the human trunk — the one lying over and the other under this line — then one cannot know that Mars and Venus, or Mars and Mercury are essentially different. The ability to think of the Universe as an organism depends on our learning to understand the hieroglyph of the organism we have before us. We must learn to perceive Man as a hieroglyph of the Universe, for he gives us the opportunity of seeing near at hand how different are above and below, left and right, before and behind. We must learn this first in Man, and we shall then find it in the Universe.

Because the modern view of the Universe held by Natural Science really gives a cosmogony omitting Man — recognising him only as the highest of the animals, that is to say an abstraction — because Man is not in it at all, therefore to this conception the Universe appears as a mathematical picture only, in which the universal origin of Freedom and Morality can never be recognised. It is, however, of the utmost importance that we should learn to perceive scientifically the connection between Moral Law and Natural Necessity. Today I have endeavoured to show you, in perhaps rather subtle concepts, how a knowledge of the Universe is to be gained from a Knowledge of Man.

To the doctors I was able to show in a strictly scientific way how this path has to be sought in Medicine, Physiology and Biology. In these lectures it will be our task to perceive how it must be sought if we are to form aright our general understanding of the world; and the social life in which we find ourselves in these times has great need of such understanding.

LECTURE TWO

Let us continue our studies of yesterday, I then drew your attention to the fact that at the present period in human thought we compress the whole world within *abstract lines of space*, standing perpendicular to one another and forming the three dimensions of space, whereas in its life aspect this three-dimensional world proves to be much more complicated and much more concrete. In order to gain an adequate conception of all that this means, we must grasp it in even greater definition.

We must ask the question: If it is true that our Thinking is to be associated with the vertical plane which cuts through our axis of symmetry, our Willing with the vertical plane which stands perpendicularly to the thought-plane, while the plane of Feeling rests at right angles to both — how is it that we do not experience above and below, right and left, in front and behind, as three directions distinct in quality from each other and not interchangeable? How is it that we simply feel them as three space dimensions of equal value? We certainly speak of length, breadth and height, but if we form our three planes in this way, each one resting vertically upon the other, we might place the line which was horizontal in the first instance in a vertical position, and the other two would then become horizontal. In short, we could make three different arrangements, This only shows that the exactitude with which these three dimensions are built into the human body, when it is being used by man to describe and explain the whole Universe with the Sun and the stars, is made quite abstract.

The question is important: How do we manage to obtain abstract space dimensions from concrete ones? An animal could not do this! An animal would always feel its plane of symmetry as a concrete 'symmetry' plane, and it would not relate this symmetry plane to any abstract direction, but would at most, if it could think at all in the human sense, feel the turning (from one plane to another). The animal in fact *does* feel this turning as a deviation of its symmetry plane from the normal. Herein lie important and essential problems of Zoology, which will once again be illustrated as soon as man studies them from the standpoint of their impulses in reality.

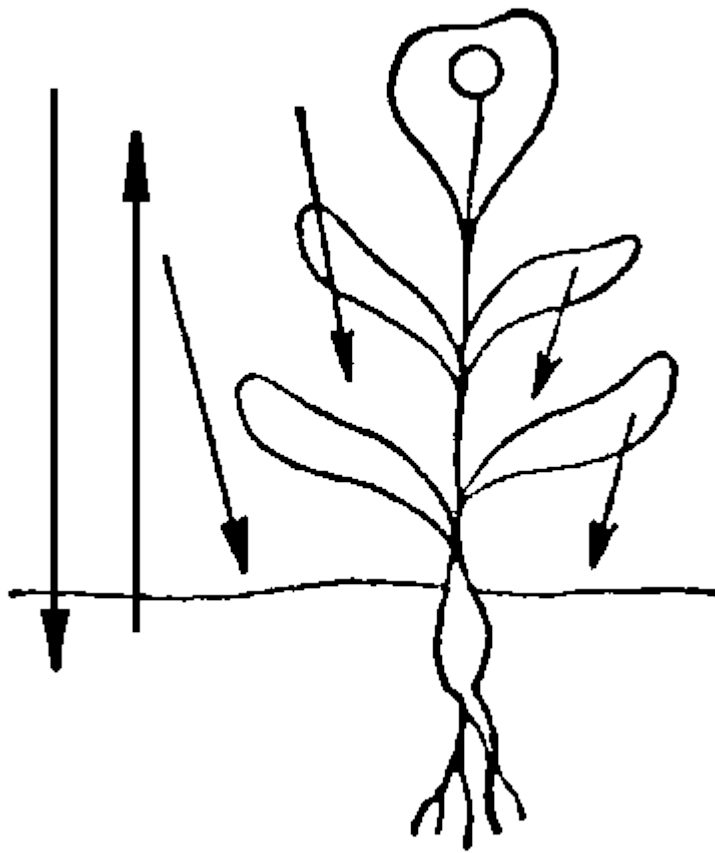
The reason that animals can find direction, as is shown most clearly of all in the case of the migration of birds, is because they do not feel the three directions of space in a nebulous way, but feel themselves as part of a quite definite direction of space, and feel each departure from this direction as an angle, as a deviation.

Now, if we wish to understand how all this applies to man, we must call to our assistance what we have already learned about the organisation of the human body. We have heard that man is a threefold being, consisting firstly of the characteristic head organisation, which does not of course include the head alone but chiefly functions there, and extends all over the rest of the body. Then there is what I will designate as the 'Circulation man' — all that belongs to lung and heart, and represents Rhythm in man. And lastly there is the 'Limb' man, which also continues inward and constitutes that part of man which is connected with metabolism or the transmutation of substance.

It now behoves us to study this three-membered man more closely. We will first think of him as Head man, Rhythmic man and Limb man. Of these three, only the third with its continuation inwards is strongly connected with the forces-not the substances, but the *forces* of our terrestrial planet.

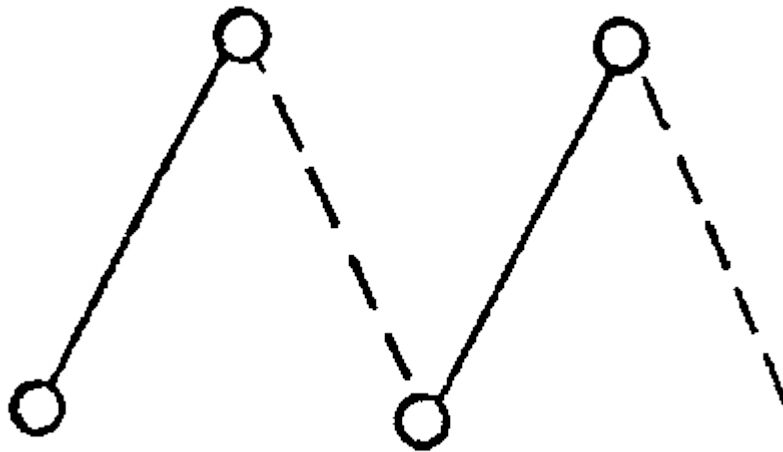
This does not apply to the Head man, for what is he? (We are not now considering anything substantial but the forces, the *formative forces* which condition him.) The Head man is the metamorphosis of the Limb man of the previous incarnation. The forces that formed the Limb man in the last incarnation, have, during the period between the last death and the last birth — that birth which brought us into our present existence — been in a world which we have often described. There they were metamorphosed so that they could now form the head. Thus the Head man and the Limb man are complete polar opposites, and the central, Rhythmic man is the adjustment between the two, balancing or reconciling them by means of Rhythm.

This antithesis between the Head man and the Limb man must be still further examined. We shall, perhaps, be able more easily to approach the matters it is necessary to understand in this domain, if we examine the following example taken from another sphere.



Consider the plant — not, for the moment, a perennial plant, but an annual which develops from seed to root and stem and during the year forms its fruit and seed. Such a plant grows from the seed that has been planted in the earth; out of the seed emerge the roots, then the leaves and the flowers, in which latter, during the fruit stage, is developed the new seed. This is the evolutionary cycle of the plant.

The plant proceeds from the seed-formation in the Earth, grows until it reaches the surface, when it receives the effects of the light — from the Sun — and the effects of warmth. Under these influences it grows still further and completes its cycle by returning again to the stage of seed-formation. But now, when it returns to the seeding period in autumn we have the plant not below in the soil but above the Earth; and here it has been during the whole summer, dependent upon extra-terrestrial influences. These influences helped to promote its growth to the point of new seed-formation; it has therefore grown to the point of a fresh seed-formation not under the influences of the Earth, but while drawn away from these by extra-terrestrial forces. It has become once more what it was before and Yet something different. In what sense different? The completion of the new seed *terminates* the process of growth. Development ends here, and the cycle cannot be completed unless we take the seed from its own Plane or region and return it once more to the Earth. That is to say, if we follow that seed up into the sphere in which it is beyond the earthly element, we must then bring it down again, under the Earth. Then once more it grows up towards Heaven, and then again we must bring it down again to Earth.



That is to say, further growth depends upon bringing the seed down again to a deeper level — we must return to the Earth that which has been generated by the forces of Heaven. Therefore it is not sufficient to consider the cycle merely from seed to seed. We are concerned with the fact that the plant in a sense outgrows itself, and when it has outgrown itself to a certain stage, we must bring it back again to its original place, where it is once more received by the same forces and the cycle begins anew.

We can now draw the process in a diagram. If we have here the Earth level, then the cycle of evolution for the plant must be drawn thus. But the plant must again return to Earth, and so if we draw several annual processes, we must advance a little further each time. There you have the difference of level. We must again and again bring the plant back to another level.

I have given you this as an illustration, and before we pass on, something else must be considered in connection with it. Notice the way in which the bean plant arises out of the seed. and you will understand what I mean. You will realise it still better, if you observe a plant with a twining stem, one that is naturally inclined not to grow up in a straight line if certain forces are able to act freely. The bindweed is an instance of such a plant.

Now let us pass on to consider this picture in connection with man. If instead of thinking of the yearly cycle of the plant, we turn our attention to that cycle which leads man from one earthly life, through the spiritual world, to the next earthly life, we have there something quite remarkably similar. Think of your limb organism in the previous incarnation, and your head in this incarnation. The head is formed through a metamorphosis, and it is only the *visible* change that is interrupted by all that takes place between death and a new birth. The head is formed in the same way as the new seed in (the plant is formed out of the old. But the whole of the intermediate life of the plant lies between. So that we may say: From the point of view of the organisation of his form, it is as if in man the root existed in the previous incarnation, and out of this root has grown the head of the present incarnation. The head, therefore, represents something analogous to the seed. But in man all this takes place, one may say, upon a higher level — in a higher region — and is, besides, more complicated.

And now in order to complete this conception, think of the whole metamorphosis of the plant. If you observe the bindweed, you will see from the spiral or screw-like form of the stem, that the forces acting from outside are not such as to cause it merely to grow in a straight line, they induce it to grow in a spiral form. The plant has a tendency to spiral formation. Only when the *new seed* is developed, does the seed resist this tendency; it is entirely concentrated in this small grain. The seed then withdraws from the influence of the Universe. In the case of man the Limb man is most under the influence of the Earth. (In the Rhythmic man the case is different and we will speak about this later.) But the head is something which withdraws itself from the Earth-forces and takes no part in them, just as the seed takes no part in the extra-mundane influences. Only because the head withdraws from the Earth-forces are we men able to think in abstract thoughts. Were it impossible for our head to separate itself entirely from Earth influences, we could not think in the abstract.

This fact is indeed expressed in the form of man. Think for a moment that your head actually represents the transformed Limb man. The latter however walks upon the Earth's surface, not so the head. The head may be

compared with a man who is comfortably seated in a motor car or in a train; he does not move and yet goes forward. The head is in this position in respect to the rest of the organism; the latter advances forward, and the head rests as though in a vehicle, not taking part in any of the movements, but withdrawing itself in a very evident way from the Earth forces. The head is like the man who lets himself be carried forward by other people.

Such is the organisation of the head of man. It withdraws from the Earth's influences, and we can therefore say: The head of man shows itself — at least in this comparison — similar to the seed that withdraws from the heavenly influences of plant-formation. But with man it is not the same as with the plant. The latter grows from the Earth upwards — towards the Heavenly influences. Man grows downwards. When he arrives at conception or birth, he is in the first place a head structure; external embryology affords absolute proof of this. He brings with him his head as a transformed product of the last incarnation. During this earthly life — through the forces of it — the Limb man develops most especially. It grows on to the head. It is less evolved than the head and entirely under the influence of the Earth forces. The head on the other hand is entirely withdrawn from the Earth forces. We can therefore say: When we observe plants, we can trace, in the spiral or screw-like construction, whence come the forces that give the plant its spiral form; they come from extra-terrestrial bodies. But when we consider man, and see how he grows towards the Earth, we must ask ourselves: What has given man this potentiality to grow in opposition to the laws governing the growth of the plant which grows upwards? For man grows downwards and gradually succumbs to the earthly influence. How is all this explained? This is a most important, indeed an essential question, concerning not only Morphology, the study of the human form, but the whole being of Man. You see, if we were obliged to live our soul-life without a head, it would be entirely different; we should be incapable of any abstract conceptions! Above all, we could not conceive of three-dimensional space as abstract, but would strictly differentiate between front and back, light and left, above and below. All these directions would be for us quite distinct in character. This is, in fact, what our *organism* does. As soon as you have advanced, through the methods of Spiritual Science, to the imaginative conception of the Universe, this comfortable three-dimensionality ceases. *Now* you must discriminate, for you have performed something quite remarkable — you have eliminated the ordinary organism of the head and have gone back to the *etheric organism* of man.

Now the etheric organisation is essentially different from the physical organisation of the head. It is only through the completely organised head, brought over to this incarnation from the previous one, that abstractions have become possible. All abstract thinking, all thinking on the plane of pure thought, is bound to this head organism, which we attain only by leaving the spiritual world and coming into this physical world, in order to make independent of the Earth-organisation that which formerly was dependent on it.

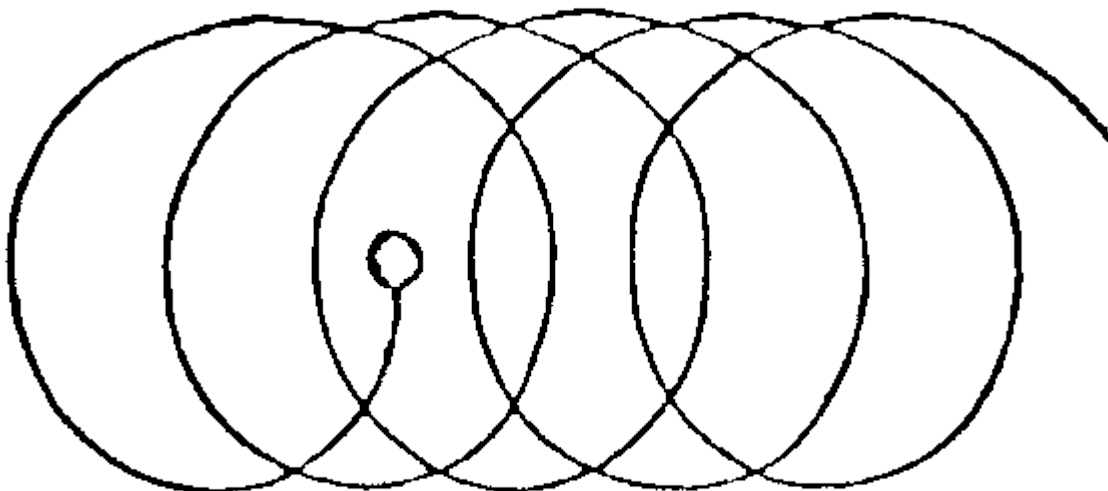
This will show you that Man, like the plant, is embedded into the earthly influences, but with this difference, that man makes himself independent of them through his head organism. If the rest of our organism were to think without the instrumentality of the head — as indeed it can — man would at once feel himself one with the whole organism of the Universe.

If it were possible to invent a very comfortable sleeping car — it is at the present time perhaps unlikely — but a car from which you did not look out and from which all noise and rattle were eliminated, you might fall into the illusion that you were in a still and silent room, for you would perceive nothing of its movement. But upon looking out of the window, you would see that it is moving forward, although you are sitting quietly in the car. Similarly, as soon as you also release yourself from the illusion which your head organism produces in you during the process of making itself independent of the Earth-organisation, you observe that you are taking part in the motion of the Earth. That is to say, it is possible, through the transition from what, in my book *Knowledge of the Higher Worlds* I have called the present-day mode of forming ideas to what I have called Imagination — it is possible to *feel the movements of the Earth*, because you are then 'looking out of the window'. You look into the spiritual world. In just the same way as you look through the window of a train and notice the landscape outside continually changing, so do you, when looking out of the physical sense-world into the spiritual, perceive in the alterations in the latter as you pass by, that you with the Earth are not at rest, but moving forward. Hence we cannot arrive at a true astronomical space-conception if we insist upon constructing it just with that part of our organism which has made itself independent!

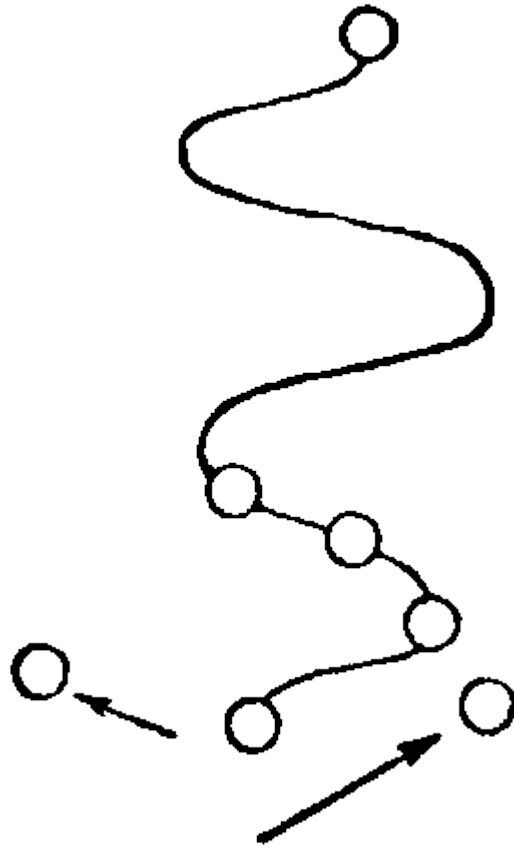
Consider for a moment what we as civilised humanity have done since the beginning of this Fifth post-Atlantean epoch. We have thought about the Universe with our head. And it is the head — that part of us which

has made itself quite independent of the Earth — that has contracted the world-movements into the abstraction of the three dimensions. We have the Copernican conception of the Universe, designed for us by *the least appropriate instrument*, the head, the essential characteristic of which is its emancipation from co-operation in the world movements. It would be somewhat as though you wished to obtain an idea, shall we say, of the movement of a railway train in which you are traveling, from a picture of it you draw with your hand, without reference to the movement of the train, but solely according to your own ideas. You draw something; you make yourself independent. But you cannot consider such a drawing as depicting the movement of the railway train; it has nothing whatever to do with it! And just as little to do with the world-process has a picture of it that we have designed according to external spatial astronomy, using for the purpose the instrument that is the most inadequate for its conception.

Now just observe to what conclusion a really truthful and commensurate conception of things leads us. We are compelled to admit that our spatial astronomical picture of the world has been built up with the most inadequate means. No wonder it contradicts the results that are obtained when the proper instrument is used! of course, for certain purposes this conception is well adapted, because since the middle of the fifteenth century, when the Fifth post-Atlantean period began, we have had gradually to learn to form thoughts independently of the Universe. We shall hear in the next lecture how that came about. But we have thereby lost the capacity of really knowing anything of the movements in which we have trained ourselves to feel concretely the otherwise abstract dimensions of space. We shall come back to these things again and again; for we cannot arrive at a complete picture in any other way than by building up our ideas, as it were, in cycles.



After yesterday's suggestions Dr. Stein has taken the trouble to construct a model showing the movements which result when we follow *Man together with the Earth*, or in other words the movement of the Earth taken in its absolute sense. If instead of following this time the motion of plant-forces in spirals, I follow the movements described by Man with the Earth, I again come upon a spiral, but one which is progressive. This spiral gives us an illustration of the real movement of the Earth, and at the same time a picture of that of the Sun. Suppose for a moment that the Earth is here and the Sun there. An observer sees the Sun in this direction. (diagram). The Earth progresses, but exactly in a line behind the Sun. When the Earth is here, the observer now sees the Sun in another direction. The Sun advances still further, the



Earth following, and once again the observer sees the Sun in the other direction. That is to say, he sees the Sun at one time on the right, and another time on the left, owing to the way in which the Earth follows the Sun.

This has been interpreted as demonstrating that the Sun stands still and the Earth revolves round it. In reality, it is not so; the Earth moves along behind the Sun. The observer sees the Sun to the right when the latter has arrived at one point of the spiral path, while the Earth is here. Next he sees the Sun to the left, then again right, then left, and so on. All this gives the observer, who judges by outward appearances and loses sight of his own movement, the impression that the Earth revolves round the Sun.

From this you will realise how great a possibility of deception arises when one judges by exterior appearances; for here indeed a relativity of motion exists. We can really affirm that those who now calculate the apparent motion of the Sun do not perceive their own motion, and omit to take into consideration the relation between the Sun and the Earth. I should like you to try to form a true idea of What I have said about course or motion in a screw-like line, because one must visualise, in a model such as this, the fact of the Earth following in the wake of the Sun; and then we shall be able to go on to what I should like us to attain to-morrow, namely a true understanding of the facts before us. Today I have intentionally given suggestions only, and purposely left many questions open, but they will be answered to-morrow or in one of the subsequent lectures. I wanted to show you in a quite simple way the experiences of one who looks out through the windows of the physical world, and observes the spiritual world outside as it rushes by. In this way he can form an idea of the real motion of the Earth and also of the Sun.

But I will show you first how to gain a conception of the true relation of the Earth to the Sun — that the Earth actually *follows* the Sun in its path — by searching for the one thing that will show us this relationship, namely certain processes in the human organism connected with the representative of the Sun in man—the human heart. For it is by taking our start from the knowledge of *Man* that we must seek to attain to a knowledge of the *Universe*.

LECTURE THREE

In these studies I wanted to draw your attention to certain things which can lead us back to a more concrete study of the Universe than is contained in the cosmogony of Copernicus. We must not forget that the Copernican cosmogony arose during the epoch after the middle of the fifteenth century when there was an increasing tendency towards an abstract conception of the Universe. It came indeed at a moment of time when the tendency to make everything abstract was at its height. We must also remember that it is essential now that we should get free of this tendency and bring to our thought about the Universe concepts that contain something more than mere abstract ideas. It is not a matter simply of constructing a cosmogony similar in kind to that of Copernicus, on slightly different lines. This was brought home to me in the questions arising out of the last lecture. For the point in these questions turned on the possibility of being able at once to draw lines that would give us a picture of the world — once more a picture in quite external abstractions. That of course is not what is wanted. What we have to do is to grasp in its spiritual nature all that is *not* man, in order to build a bridge from the spiritual in Man to the spiritual outside him. You must understand that here, at this particular time at all events, it cannot be our task to discuss a mathematical astronomy. That would necessitate beginning over again from the very rudiments; for the fundamental concepts employed Today have their source in the whole materialistic mode of thinking in use since the middle of the fifteenth century. If we wanted to develop and complete the cosmogony we have sketched, it would be necessary to begin with the most elementary principles and elaborate them anew. The fate that befell Copernicanism came about, as we shall see, because of the strong tendency to abstraction, which may so easily lead to intellectual excesses. True Copernicanism is not really the same as that which it has become in the hands of the followers of Copernicus. Certain theories have been selected from Copernicanism which were quite in keeping with the ways of thought of the last few centuries, and from them the cosmogony now taught in all the schools has arisen.

It is not my wish to do anything in the direction of a similar cosmogony, where, instead of the well-known ellipse in which the Sun is placed as one of the foci, and in which the Earth moves with an inclined axis, we simply put a screw-shaped line! What I want rather to do is to present the relation of Man to the Universe and it is in this direction that we will now pursue the matter further.

I have tried to show you how, the moment one begins to pass to a more intensive experience of the three directions of space in one's own form, one realises how these erections differ in nature and kind from one another; it is only the faculty of mental abstraction in the head which makes these three dimensions abstract and does not distinguish between above and below, left and right, before and behind, but simply takes them as three lines. And a similar error would immediately again be incurred if one set out to build any other construction into space in a purely abstract way. The point at issue can be made clearer if for a moment we turn to something else.

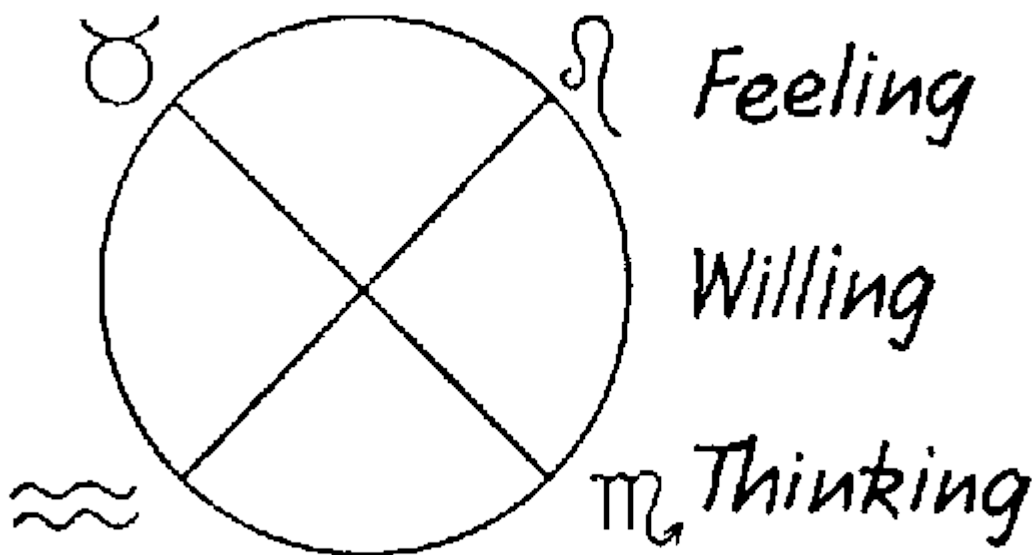
Let us consider *colours*. We will take colour once more as an example. Suppose we have a blue surface and, let us say, a yellow one. The conception of the world which, in its abstract thinking, gave rise to the Copernican cosmogony, has indeed succeeded in saying: "I see before me blue, I see before me yellow. That is due to the fact that some object has made an impression on me. This impression appears to me as yellow, as blue." The point is that we should not begin to theorise in this way at all, saying: "Before me is yellow, before me is blue, and they make a certain impression upon me." That is really just as if you were to treat the word PICTURE in the following way. Suppose you were to set about making deep researches into the word and think: " 'P', something must be at the back of this; behind 'P' I must seek the vibrations which cause it. Then again, behind the 'I' there must be vibrations, and behind the 'C' more vibrations, and so on." There is no sense in this. We find sense only when we unite the seven letters, connecting then one with another in their own plane, and read the whole word 'Picture'; when we do not speculate as to what lies behind, but read the word — 'Picture'. So here too the point is that we should say: "This first surface makes me penetrate, as it were, behind it, makes me plunge into it. This other surface makes me turn away from it." It is to these *feelings* into which the impression passes over that we must pay attention; then we come to something concrete. If we thus seek in the world outside what we experience inwardly, we come indeed to the feeling that we are not really *within ourselves* at all, but that with our real Ego we are *in the Universe*, poured out into the Universe. Instead of searching behind the external Universe for 'vibrations', the atomists should seek for their own Ego behind the phenomena and then try to find out how their own Ego is placed into the outer Universe is, as it were, poured out into it. Just as with colour we

should try to ascertain whether we feel we must plunge into it or whether we feel ourselves repelled by it, so, as regards the structure of our organism, we should feel how the three directions, above and below, forwards and backwards, right and left, differ concretely from one another; we should feel how differently we experience them inwardly, when we project ourselves into the Universe. When we are aware of ourselves as Man standing on the Earth, surrounded by the planets and fixed stars, we begin to feel ourselves as part of all these; it is not a matter merely of drawing three dimensions at right angles, but of thinking concretely about the Cosmos and penetrating into the concrete reality of the dimensions.

Now there is a series of constellations that is immediately evident to those who study the outer Universe at night-time, and has indeed always been seen when men have studied the stars. It is what we call the *Zodiac*. It is immaterial whether we believe in the Ptolemaic or the Copernican system; if we follow the apparent course of the Sun it always seems to pass through the Zodiac in its yearly round. Now if we imagine ourselves placed into the Universe in a living way, we find that the Zodiac is of very great significance. We cannot conceive of any other Plane in celestial space as being of like value with the Zodiac, any more than we could conceive the plane which divides us in two and creates our symmetry, as being placed at random just anywhere. We then perceive the Zodiac as something through which a plane may be described. (Drawing.) Let us suppose this plane to be the plane of the blackboard, so that we have here the plane of the Zodiac; the plane of the Zodiac is just the plane of the blackboard. We shall then have one plane before us in Cosmic space, precisely as we imagined the three planes sketched in Man. That is certainly a plane of which we can say that it is fixed there for us. We see the Sun run its course through the Zodiac; we relate all the phenomena of the heavens to this plane. And we have here an analogy of an extra-human kind for what we must perceive and experience as planes in Man himself. Now when we draw the Symmetry plane in Man, and have on one side of the Symmetry-axis the liver organised in one way, and on the other side the stomach organised in a different way, we cannot think of such a fact without feeling at the same time some inner concrete relation; we cannot imagine mere lines of space lying there, but what is in the space must manifest definite forces of activity; it will not be a matter of indifference whether something is on the right or on the left. In the same way we must imagine that in the organisation of the Universe it is a matter of consequence whether a thing is above or below the Zodiac. We shall begin to think of Cosmic space — as we see it there, sown with stars — we shall begin to think of it as having form.

Now just as we can think of this plane on the blackboard, so we can also think of another at right angles to it. Let us think of a plane extending from the constellation Leo to that of Aquarius on the other side. Then we can go further and imagine a third plane at right angles again to this one, running from Taurus to Scorpio. We have now three planes at right angles to one another in Cosmic space.

These three planes are analogous to the three we have imagined described in Man. If we think of the plane we have denoted as that of Will — the plane namely which separates us behind and before — we have the plane of the Zodiac itself.



If we think of the plane running from Taurus to Scorpio, we have the plane of Thinking; that is, our Thought Plane would be co-ordinated to this plane. And the third plane would be that of Feeling. Thus we have divided Cosmic space by means of three planes, just as we divided Man in our first lecture.

What is primarily of importance is *not* simply to unlearn as quickly as possible the Copernican Cosmic system, but to enter into this concrete picture, to imagine Cosmic space itself so organised that one can distinguish in it three planes at right angles to one another, just as can be done in the case of Man.

The next question to arise for us must be: Is really the whole of Man to be thought of as forming an integral part of what appears to us as an outer Cosmogony, in which Man is included? We emphasised in the last lecture that the Earth with the Sun and other planets progress in a spiral. Such a statement is, of course, merely diagrammatic, for the spiral line itself is curved. That however does not concern us here; what is important for us at the moment is that the Earth as we have seen, follows the Sun in such a spiral, and the question is whether Man too is so interwoven in this movement that he is absolutely compelled to take part in it in any case; for if that be so, if he absolutely must follow completely, then there is no place at all for free will or for moral activity on his part. Let us not forget that we began our study with this very question: how to build a bridge leading from pure natural *necessity* to *morality*, to what takes place under the impulse of *free will*.

Here we can go no further if we rely only on the Copernican system; for what have we there? We picture the Earth upon which we stand; whether the Earth or the Sun goes rushing along is of no moment ... If Man is connected with all this in an absolute natural causality, it is impossible for him to develop free will. We must therefore put the question: Does the entire being of Man lie within this natural causality, or does the being of Man move up out of it at some point? We must not however put the question out of the mood of thought of the materialists of the nineteenth century, who remarked that so many people have died on Earth that it would not be possible to find room for all their souls. They wanted to know about the space required for souls. But the point in question really is: What *meaning* is there in asking about a place for souls?

We must above all clearly understand that the full sense and meaning of the events in the Universe — and movement is also an event — only becomes clear to us when we grasp it in definite cases. We distinguish in some way what takes place in the four realms, — what is above and below the plane of the Zodiac (Will), and what is right and left of the plane of Feeling; or again, we can consider what lies on this or on the other side of the plane of Thinking. We feel that something is connected with this differentiation, something of Cosmic happening, namely, that which manifests in recapitulation, as we have it for instance in what we designate as the “course of the year”. And we must now ask in a concrete way: How can we find a connection between Man and the yearly course of the outer Universe? Well, first of all we find that when Man descends from the spiritual world into the physical, he passes through conception. He remains for about nine months in the embryonic condition — that is to say, *three months less* than the year's course. We might be inclined to call this a very irregular proceeding. In his evolution Man seems to show, even at the very genesis of his physical earthly existence, that he pays no attention to the course of Cosmic events outside. This is however not the case. If we have the faculty for observing the child during the first three months of his earthly existence, we find that these first three months — which make the year complete — manifest in a very true sense a continuation of his embryonic life; what takes place in the brain, as well as other things happening with the little child, can from a certain aspect be considered as still belonging to its embryonic life. Thus we can say that in a certain respect the first year of human development can after all be identified with the year's course.

Then comes another year — or about a year. If we observe the child after the first year, we see that the second year is approximately the time of the growth of the milk teeth. We observe the child during the second year after its conception, and we find that this year corresponds on an average with the growth of the first teeth. Now let us ask, does this continue? No, it does not. The first ‘teething’ seems to represent an inner year of Man. And so it does, just as the first year is at the same time an inner year of Man. In the formation of the milk teeth, the Universe obviously works in the child. But then something different happens.

In a space of time seven times as long — it is indeed far from completion even then, but at least it begins its activity during this period — in a period seven times as long from birth, the force which pushes out the second teeth is at work in the child. Here something occurs which we can not connect with the world's course but with something that is withdrawn out of it, and works from the inner being of the child.

Here, then, we have a concrete instance. We have, first of all, in respect to one series of facts, the world organism projected into Man in the formation of his milk teeth. And then again, when we look at the permanent teeth, which grow forth from Man, we find that these are Man's own production. An inner human Cosmic system has placed them into the other Cosmic system. Here we have the first herald of Man's becoming free, in the fact that he engages in something which clearly shows his independence of the Universe; because although this process retains within it in Man's being the time-course of the Universe, Man has slowed it down within him, he has given the same process a different velocity, seven times as slow, thus taking seven times as long. Here we have the contrast between the inner being of Man and the outer being of the Universe.

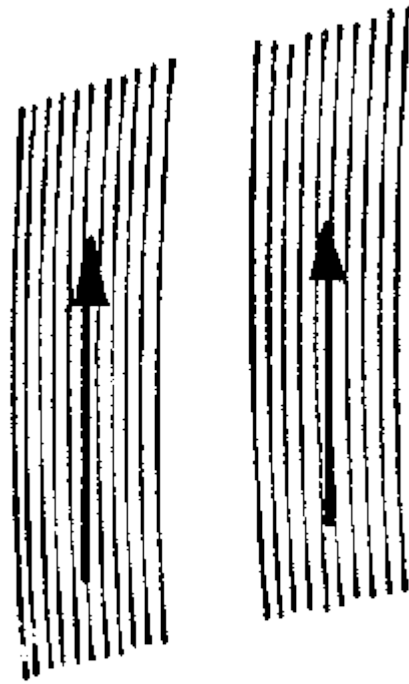
Another independence of the outer Universe is very clearly demonstrated in the alternation between sleeping and waking. Positions of the Earth alternate in respect to certain constellations, but they alternate always with day and night. How is it with Man?

What does this alternation between waking and sleeping signify to us human beings? It means, roughly speaking, that we go about at one time with our Ego and astral body united with our etheric and physical bodies, and at another time with the Ego and the astral body separated from the etheric and physical bodies.

Now a man in the present cycle of civilisation, especially one who calls himself a civilised man, is no longer entirely dependent in this respect on the cycle of Nature. The cycle of waking and sleeping, in its measure of time, seems to resemble the cycle of Nature; but there are persons at the present time — I have known such! — who turn night into day and day into night. In short, Man can wrest himself free from connection with the world's course. The sequence in him of the sleeping and waking states shows however that he still has within him a copy of this conformity to law. The same is true of many phenomena of the human being. When we observe how Man alternates between waking and sleeping, and Nature alternates between day and night, and how Man is still today bound to the alternation of waking and sleeping though not to that of day and night, we must say: Man was at one time, as regards his inner conditions, bound to the outer course of the Universe, but he has broken away from it. Civilised Man today has almost entirely broken away from the course of outer Nature. He is really returning to it when he perceives, when he discovers with his intellect, that it is better for him to sleep at night rather than by day. It is not the case however, that night takes possession of Man in such a way that he must under any circumstances sleep. No civilised man really feels: 'Night makes me sleep, day wakes me up.' At most, if night falls and a lecture is still going on here, the two facts taken together may perhaps affect some in such a way they experience an absolute demand of Nature that they should fall asleep. These however are incidents not necessarily involved in our cosmogony.

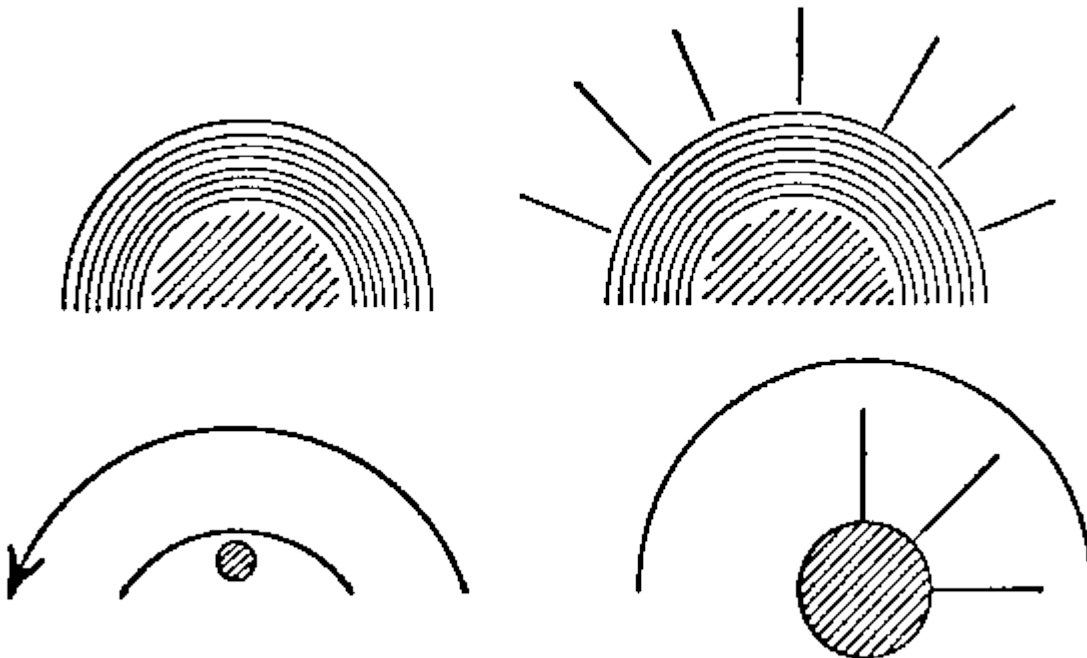
Thus the point to observe is that Man has wrested himself away from the course of Nature, but that nevertheless in his periodicity he still shows a reflection of it. Let us see how transitions from one to the other condition manifest themselves. We may say that in our waking and sleeping we still distinctly show the course of Nature in picture, but that we have wrested ourselves free from it. In the appearance of the second teeth, we no longer show in chronological sequence a picture of the course of Nature such as is still expressed in the growth of the first teeth. When we receive our second teeth, a new course of Nature arises in us; for this is not in our control like sleeping and walking. Our free choice does not enter here. Here something appears belonging to Nature and yet not following the larger course of Nature, something which Man has for his own. And yet it is not within his free choice, it is inserted as a second natural organisation within the first.

In all these things, I am speaking of quite simple everyday matters, but it is a question of noticing them in the right way. We must now say to ourselves: There is a certain natural 'happening', within which is interwoven the growth of the first teeth. Let us draw it in diagram. Within this natural event or process, as a part of the process, goes forward the formation of Man's first teeth. Then we have another natural happening, one of Man's own, not all within the general happening of the world-the growth of the second teeth (red). To draw it, we must present it as a different stream. Yet the difference is not yet clear in the drawing, they both look alike. The fact is, we must represent



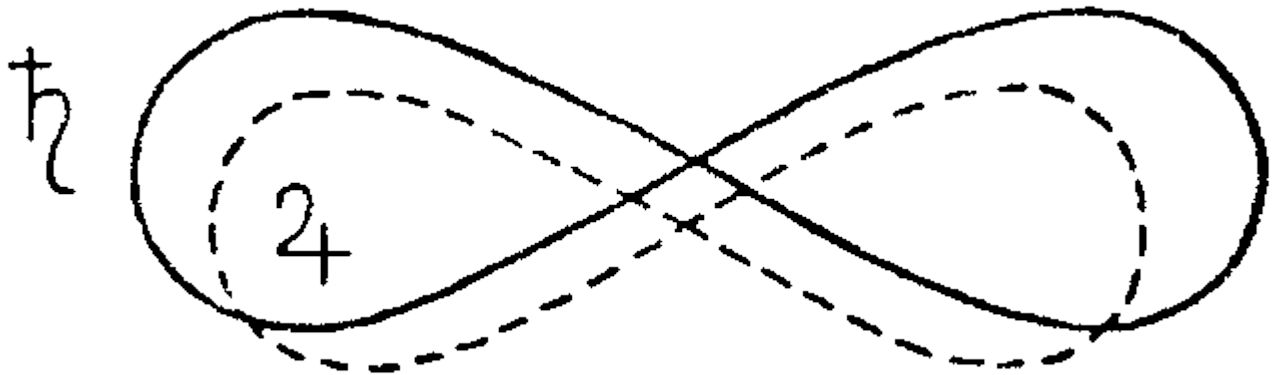
red

it in a quite different way if we want to depict the connection between the receiving of the first and second teeth;
 we must draw the first teeth seven times deeper in. If we draw them side by side, parallel, we have no picture of
 the relation of



the first teeth to the second; we only get a picture of the force upon which the growth of the first teeth depends by drawing it encircled by another force, upon which the growth of the second teeth depends. Here, through the difference of velocity, the necessity arises for the movement to *curve*. Thus, when we say that there is a star somewhere in space with another circling round it ... then through the simple fact of the revolution, something Qualitative arises — a creative activity.

I might also say: we look at the growth of the first teeth and of the second; that must have something to do in Cosmic space, with certain forces, one of which circles round the other. I put this example before you, because from it you will see what it means to speak of concrete movements in space, and how empty is the kind of talk which says: Jupiter — or, it may be Saturn — is so and so many miles distant from the Sun and encircles it in such and such a line. That tells one nothing at all, it is an empty phrase. We can only know anything about facts like these when we unite some content with them, such as: the orbit of Jupiter is like this, the orbit of Saturn like that, and the revolution of the one serves the revolution of the other.



I have here merely pointed out the necessity for certain definite processes and happenings. Some of you may say that they are difficult to understand. Or perhaps you will not say so, but will consider that there is no need to discuss them! Not until people learn to study such things will they be able to progress to a definite and clear view of the Universe. And then they will give up what is presented so superficially in Copernicanism — the conception of the celestial movements solely in lines. Rather should an impulse enter humanity which says: It is necessary to be clear first about our own most elementary experiences before turning our attention to the outer mysteries of the Universe.

We only learn the significance of certain connections which we read from the stars, when we understand the corresponding processes in our organism; for what lies within our skin is no other than a reflection of the organism of the outer world. Thus if we draw a man in diagram, we have here the blood circulation (in diagram only) and we can trace its path. It is all in the inner being of Man. If we now go out into the Universe and look for the Sun, it is the Sun which corresponds to the heart within Man. What goes out from the heart through the body, or in point of fact out from the body to the heart, does in truth approximately resemble the movements connected with the course of the Sun. Instead of drawing abstract lines, we should look into the human being. Within his skin would be found what is outside in celestial space. Man too would be found to have his part in the Cosmic order. And, on the other hand, his independence of the Cosmic system would also be seen; and how he gains this independence little by little, as I have shown. We will speak further about this in the next lecture; for the present we must realise that we are dealing with it here merely in a diagrammatic way.

Look at the principal course of the blood-vessels in the human organism. Seen from above it is like a looped line. Instead of drawing it, we should follow the hieroglyphs inscribed in our own selves; for then we would learn to understand the nature of the qualities in the Universe outside. This we can only do when we are able to recognise and experience livingly the fact of which I have also spoken in public lectures, the fact namely, that the heart does not work like a pump driving the blood through the body, but that the heart is moved by the

circulation, which is itself a living thing, and the circulation is in its turn conditioned by the organs. The heart, as can be followed in embryology, is really nothing more than a product of the blood circulation. If we can understand what the heart is in the human body, we shall learn to understand also that the Sun is not, as Newton calls it, the general cable-pulley which sends its ropes (called the force of gravitation) towards the planets, Mercury, Venus, Earth, Mars and so forth, drawing them by these unseen forces of attraction, or spraying out light to them, and the like; but that just as the movement of the heart is the product of the life-force of the circulation, so the Sun is no other than the product of the whole Planetary system. The Sun is the *result*, not the point of departure. The living co-operation of the solar system produces in the centre a hollow, which reflects as a mirror. That is the Sun! I have often said that the physicist would be greatly astonished if he could travel to the Sun and find there nothing of what he now imagines, but simply a hollow space; nay, even a hollow space of suction which annihilates everything within it. A space indeed that is *less* than hollow. A hollow space merely receives what is put into it; but the Sun is a hollow space of such a nature that anything brought to it is immediately absorbed and disappears. There in the Sun is not only nothing, but less than nothing. What shines to us in the light is the reflection of what first comes in from Cosmic space — just as the movement of the heart is, as it were, what is arrested there in the co-operation of the organs, in the blood-movement, through the activity of thirst and hunger and so forth.

If we understand the processes in the inner being of the organism, we can also understand from them the processes in outer Cosmic space. The abstract dimensions of space are only there to enable us to follow up these things in an easy indolent way. If we wish to follow them up in conformity with the truth, we must try to experience ourselves inwardly, and then turn outwards with inner understanding. They understand the Sun who understand the human heart; and so it is with the rest of Man's inner being.

Thus it is a matter of supreme moment to take the saying 'Know Thyself' seriously, and from that to pass on to the comprehension of the Universe. By a self-knowledge which embraces the whole Man, we shall understand the Universe outside Man.

You see we cannot get on so quickly with the construction of a cosmogony! In order to make a few of the features of this cosmogony clear, we can draw a spiral; but this does not yet show the actual state of things. For to describe a few more features, we must make the spiral itself move spirally; we must make the line itself curve. And even then we have not come far, for in order to describe certain facts such as the difference between the growth of the first year's teeth and the growth of the seven years' teeth we must describe a displacement of the line itself.

So you see that the construction of a Universe is not a thing that can be done very quickly. The wish to construct a cosmogony with a few lines must be relinquished, and man must learn to regard the present conception of the world as an absolute delusion.

This is intended as a preparatory study for what I mean to say in the next lecture. It had to be rather more difficult; but when we have overcome these initial difficulties, we shall have constructed the preliminary conditions for uniting the three important domains of life — *Nature*, *Morality* and *Religion* — by means of two corresponding bridges.

LECTURE FOUR

The fundamental nature and construction of the Universe cannot be conceived in its reality without continual reference to Man. Again and again we must try to find in the Universe outside, what exists in one way or another in Man. We will use these next three lectures for the purpose of obtaining, from just this point of view, a kind of plastically formed picture of the world, which can then lead on to the answer of the question: What is the relation between morality and natural law in Man?

When we study Man (I am here only repeating things that have already been spoken and written of from various standpoints) we find him first of all organised into What we may call higher Man and lower Man; and then we have what forms the connection between the two — the rhythmic Man, equalising or balancing the other two parts.

We have to observe first of all that a complete difference exists in the laws governing the upper and lower parts of man. We can realise this difference when we consider the fact that the ‘upper man’, who is regulated by the head, is in its origin the outcome of entirely different laws, belonging as it does to a different world from the world of the senses.

That part of us which in our last incarnation was a result of forces of the sense world, namely the limb man, has become what it now is, the head man, Through a metamorphosis which *takes place between death and a new birth* — not in relation, of course, to the outer form, but in regard to the forces of formation. What is now the limb man becomes entirely transformed in its forces — transmuted in its supersensible constitution between death and a new birth, and appears in our new Earth-life incorporated out of the Universe into our constitution. On to this is suspended, as it were, the rest of man — formed out of the world of sense. This fact we can find already proved clearly from Embryology, if we would only think rationally about embryonic facts. And thereby we have in our head organisation a system of laws not belonging to this world at all, save only at its origin — that is, in so far as it was present in a previous incarnation. But all that which has caused the transformation of limb man to head man is active in an entirely different world — the world wherein we live, in the interval between death and a new birth. Here, then, another world penetrates the world of the senses. Another world is manifested in the head organism of Man. In a certain sense the external world is brought into correspondence with this other world, in that the head projects the principal sense-organs outwards. The world that is extended in space and that runs its course in time, is perceived by man through his senses; it penetrates into man through his senses, and so it too belongs in a certain sense to the head organism. In relation to our limb man on the other hand, we are in a state of sleep. I have often spoken of this sleep-state of man in relation to his Will nature, in relation to all that exists in the limb man. We do not know *how* we move our limbs, *how* the will causes the movement; we only examine the movement afterwards as an outer phenomenon through our senses. We are asleep in our limb organisation, in the same sense as we are asleep in the Universe between going to sleep and awaking.

So here we have before us an entirely different world. We can say: we have a world which outwardly manifests all that speaks to our senses — all that we perceive through eyes, ears, etc. To this world we belong through that portion of ourselves which we have called the *head man*. Our connection with the world that lies *behind* this one is brought about by the limb man, but in it we are unconscious; we sleep into this world, whether we do so in the domain of our Will, or whether we sleep into the Universe between our going to sleep and our waking.

These two worlds are actually so constituted that the one is turned towards us, and the other away from us, as it were; it lies behind the world of sense although we have our origin in it. Man felt in olden times — and the East still feels it — that a reconciliation between the two is possible. As you know, we in the West search for the reconciliation in a different way; but the Easterns, even today, a line (sketch) still attempt to find it in a relatively conscious way, although their methods are already antiquated for the present humanity. The act of eating is symbolised by a line (sketch), for when we take food, the process following takes place in the sphere of sleep (unconsciously). We are not aware of what is really happening when we eat an egg or a cabbage; it takes place in the unconscious like the happenings of sleep. The cabbage and the egg manifest their exterior to our sense-

perception. But the eating really belongs to the completely different world. The reconciliation however, is to be found in our breathing.

Although the latter is to a certain extent unconscious, it is not so in so great a degree as our eating. In spite of the fact that our breathing is not so conscious as our hearing and seeing, it is more conscious than the process of digestion for example; and while in the East today, the attempt to make the digestive process a conscious one has, as a rule, ceased (this used to be done in olden times), the breathing process is still in a certain sense brought up into consciousness. (The snake raises the process of digestion into consciousness, but the consciousness of the snake is of course not to be compared with human consciousness). There is a certain training of the breathing, where the inhaling and exhaling are regulated in such a way that the process is transformed into a sense-perception. Thus we find respiration inserted, as it were, between conscious sense-perception and the complete unconsciousness of assimilation and transmutation of physical matter. Man in fact dwells in three worlds; the one sensible to his consciousness, the other of which he remains entirely unconscious, and the third (breathing) acting as a connecting link or mediator between the two.

Now it is a fact that the process of breathing is also a kind of assimilation; at all events, it is a material process, though taking place in a more rarefied manner; it is an intermediate state between actual transmutation of matter (assimilation and the process of sense-perception, the completely conscious experience of the external world.

In the state in which we find ourselves between falling asleep and awaking, we experience in the environment which then surrounds us, events which only enter into our every-day consciousness as dreams. Here man steps across into the world which is marked in our sketch, and the dreams reveal through their very nature how Man steps across. Consider for a moment how nearly related are dreams to the process of respiration — the rhythm of breathing — how often you can trace this rhythm in its after-workings when you dream. Man steps across the border, as it were, of the world of consciousness, when he dips ever so slightly into this other world in which he is when he sleeps or when he dreams. There lies also the world of 'Imaginations'. In 'Imaginations' it is for us a fully conscious world, we have conscious perception in that world, which we merely sip, as it were, in our dreams.

We shall now have to consider a correspondence that is found to exist, an absolute correspondence, in respect of Number. I have already often drawn your attention to this correspondence between Man and the world in which he evolves. I have pointed to the fact that Man, in his rhythm of breathing — 18 per minute — manifests something that is in remarkable accord with other processes of the Universe. We make 18 respirations per minute, which gives when calculated for the day, 25,920 respirations. And we arrive at the same number when we calculate how many days are contained in a normal life term of 72 years. That also gives about 25,920 days; so that something may be said to exhale our astral body and Ego, on falling asleep and inhale them again upon waking — always in conformity with the same number rhythm.

And again, when we consider how the Sun moves — whether apparently or really, does not matter — advancing a little each year in what we call the precession of the equinoxes, when we consider the number of years it takes the Sun to make this journey round the whole Zodiac, once more we get 25,990 years — the Platonic year.

The fact is, this human life of ours, within the boundaries set by birth and death, is indeed fashioned, down to its most infinitesimal processes — as we have seen in the breathing-in accordance with the laws of the Universe. But in the correspondence we have observed up to now between the Macrocosm and Man the Microcosm, we have made our observations in a realm where the correspondence is obvious and evident. There are however, other very important correspondences. For example, consider the following. I want to lead you through Number to something else I have to bring before you. Take the 18 respirations per minute, making 1,080 per hour and in 24 hours 25,920 respirations; that is, we must multiply: $18 \times 60 \times 24$ in order to arrive at 25,920.

Taking this as the cycle of the precession of the equinoxes, and dividing it by 60 and again by 24, we would naturally get 18 years. And what do these 18 years really mean? Consider — these 25,920 respirations correspond to a human day of 24 hours; in other words, this 24 hour day is the day of the Microcosm. 18 respirations may serve as the unit of rhythm.

And now take the complete circle described by the precession of the equinoxes, and call it, not a Platonic year, but a great Day of the Heavens, a Macrocosmic day. How long would one respiration on this scale have to occupy to correspond with the human respiration? Its duration would have to be 18 years — a respiration made by the Being corresponding to the Macrocosm.

If we take the statements of modern astronomy — we need not interpret them here, we shall speak of their meaning later — we shall find that it is a matter of indifference whether we assume that the motion of the Sun is apparent, or the motion of the Earth; that does not concern us — but let us now take that which the Astronomer of today calls *Nutation of the Earth's Axis*.

You are aware that the Earth's axis lies obliquely upon the Ecliptic, and that the Astronomers speak of an oscillation of the Earth's axis around this point and they call this 'Nutation'. The axis completes one revolution around this point in just about 18 years (it is really 18 years, 7 months, but we need not consider the fraction, although it is quite possible to calculate this too with exactitude.) But with these 18 years something else is intimately connected. For it is not merely on the fact of 'Nutation' — this 'trembling', this rotation of the Earth's axis in a double cone around the Earth's centre, and the period of 18 years for its completion — it is not only on this fact that we have to fix our minds, but we find that simultaneously with it another process takes place. The Moon appears each year in a different position because, like the Sun, she ascends and descends from the ecliptic, proceeding in a kind of oscillating motion again and again towards the Equator ecliptic. And every 18 years she appears once more in the same position she occupied 18 years before. You see there is a connection between this Nutation and the path of the Moon. Nutation in truth indicates nothing else than the Moon's path. It is the projection of the motion of the Moon. So that we can in actual reality observe the "breathing" of the Macrocosm. We only need notice the path of the Moon in 18 years or, in other words, the Nutation of the Earth's axis. The Earth dances, and she dances in such a manner as to describe a cone, a double cone, in 18 years, and this dancing is a reflection of the macrocosmic breathing. This takes place just as many times in the macrocosmic year as the 18 human respirations during the microcosmic day of 24 hours.

So we really have one macrocosmic respiration per minute in this Nutation movement. In other words, we look into this breathing of the Macrocosm through this Nutation movement of the Moon, and we have before us what corresponds to respiration in man. And now, what is the purport of all this? The meaning of it is that as we pass from waking to sleep, or only from the wholly conscious to the dream state, we enter another world, and over against the ordinary laws of day, years, etc., and also the Platonic year, we find in this insertion of a *Moon* rhythm, something that has the same relationship in the Macrocosm, as breathing, the semiconscious process of respiration, has to our full consciousness. We have therefore not only to consider a world which is spread out before us, but another world which projects into, and permeates our own.

Just as we have before us a second part of the human organism, when observing the breathing process, namely the rhythmic man, as opposed to the perceptive or head man, so we have in what appears as the yearly Moon motion, or rather the 18-year motion of the Moon, the identity between one year and one human respiration; we have this second world interpenetrating our own.

There can therefore be no question of having only one world in our environment. We have that world that we can follow as the world of the senses; but then we have a world, whose foundations are laid within the laws of another, and which stands in exactly the same relationship to the world of the senses, as our breathing does to our consciousness; and this other world is revealed to us as soon as we interpret in the right way this Moon movement, this Nutation of the Earth's axis.

These considerations should enable you to realise the impossibility of investigating in a one-sided way the laws manifesting in the world. The modern materialistic thinker is in quest of a single system of natural laws. In this he deludes himself; what he should say is rather as follows. "The world of the senses is certainly a world in which I find myself embedded and to which I belong; it is that world which is explained by natural science in terms of Cause and Effect. But another world interpenetrates this one, and is regulated by different laws. Each world is subject to its own system of laws." As long as we are of the opinion that one kind of system of laws could suffice for our world, and that all hangs upon the thread of Cause and Effect, so long shall we remain victims of complete illusions.

Only when we can perceive from facts such as the Moon's motion and nutation of the Earth's axis that

another world extends into this one — only then are we upon the right path.

And now, you see, these are the things in which the spiritual and material (so-called) touch each other, or let us say the psychical and material. He who can faithfully observe what is contained within his own self will find the following. These things must gradually be brought to the attention of humanity. There are many among you, who have already passed the 18 years and about 7 months period in age. That was an important period. Others will have passed twice that number of years — 37 years and 2 months — again an important time. After that we have a third very momentous period 18 years and seven months later, at the age of 55 years and 9 months. Few can notice as yet, not having been trained to do so, the effects and important changes taking place within the individual soul at these times. The nights passed during these periods are the most important nights in the life of the individual. It is here where the Macrocosm completes its 18 respirations, completes one minute — and Man as it were, opens a window facing quite another world. But as I said, man cannot yet watch for these points in his life. Everyone, however, could try to let his mental eye look back over the years he has passed, and if he is over 55 years old to recognise three such important epochs; others two, and most of you at any rate one! In these epochs events take place, which rush up into this world of ours out of quite a different one. Our world opens at these moments to another world.

If we wish to describe this happening more clearly, we can say that our world is at these times penetrated anew by astral streams; they flow in and out. Of course this really happens every year, but we are here concerned with the 18 years, as they correspond to the 18 respirations per minute. In short, our attention is drawn through the cosmic clock to the breathing of the Macrocosm, in which we are embedded. This correspondence with another world, which is manifested through the motion of the Moon, is exceptionally important. Because, you see, the world which at these times projects into our own, is the very world into which we pass during our sleep, when the Ego and the astral body leave our physical and etheric bodies. It must not be thought that the world composing our every-day environment is merely permeated in an abstract way by the astral world; rather should we say, it *breathes in* the astral world, and we can observe the astral in this breathing process through the Moon's motion or nutation. You will realise that we have here come to something of great significance. If you remember what I said recently, we may put it in the following way. We have, on the one hand, our world as it is generally observed; and we have in addition, the materialistic superstition that, for instance, if we gaze upwards, we see the Sun, a ball of gas, as it is described in books. This is nonsense. The Sun is not a ball of gas; but in that place where the Sun is, there is something less than empty space—a sucking, absorbing body, in fact, while all around it is that which exerts pressure. Consequently in that which comes to us from the Sun we have not to do with anything constituting a product of combustion in the Sun; but all that has been transmitted to the Sun from the Universe is rayed back.

Where the Sun is, is emptier than empty space. This can be said of all parts of the Universe where we find Ether. For this reason it is so difficult for the physicist to speak of Ether, for he thinks that Ether is also matter, though more rarefied than ordinary matter. Materialism is still very busy with this perpetual 'rarefying', both the materialism of natural science as well as the materialism of Theosophy. It distinguishes first, dense matter; then etheric matter — more rarefied; then astral. Matter — still more rarefied; and then there is the 'mental' and I do not know what else — always more and more rarefied!

The only difference (in this theory of rarefying) between the two forms of materialism is that the one recognises more degrees of rarefaction than the other. But in the transition from ponderable matter to Ether we have nothing to do with rarefaction. Anyone who believes that in Ether we have to do merely with a 'rarefying' process is like a man who says: 'I have here a purse full of money; I repeatedly take from it and the money becomes less and less. I take away still more till at last none remains.' Nothing is left — but yet he can go on! The 'nothing' can become less still; for if he gets into debt, his money becomes less than nothing. In the same way not only does matter become empty space, but it becomes negative, *less* than nothing — emptier than emptiness; it assumes a 'sucking' nature. Ether is sucking, absorbing. Matter *presses*. Ether *absorbs*. The Sun is an absorbing, sucking ball, and wherever Ether is present we have this absorbent force.

Here we step over into the other side, the other aspect of three-dimensional space — we pass from pressure to suction. That which immediately surrounds us in this world, that of which we are constituted as physical man and ether man, is both pressing and sucking or absorbing. We are a combination of both; whereas the Sun possesses the power of suction only, being *nothing but ether; nothing but suction*. It is the undulating wave of

pressure and suction, ponderable matter and ether, that forms in its alternation a living organisation. And the living organism continually breathes in the *astral*; the breathing expresses itself through the Moon's motion or nutation. And here we begin to divine a second member or principle of the world's construction; the one member — pressure and suction, physical and etheric; the other, the second — astral. The astral is neither physical nor etheric but is continually inhaled and exhaled; and the nutation demonstrates this process.

Now a certain astronomical fact was observed even in the most ancient times. Many thousands of years before the Christian era, the Egyptians knew that after a period of 72 years the fixed stars in their apparent course gain one day on the Sun. It seems to us, does it not, that the fixed stars revolve and the Sun too revolves, but that the latter revolves more slowly, so that after 72 years the stars are appreciably ahead. This is the reason of the movement of the Vernal Point (the Spring Equinoctial point); namely, that the stars go faster. The Spring Equinox moves further and further away, the fixed star has altered its place in relation to the Sun. Briefly, the facts are that if we notice the path of a fixed star and notice the point where the Sun stands over it, we find that at the end of 79 years the star occupies the same position on the 30th December, while the Sun only reaches that point again on the 31st December. The Sun has lost a day. After a lapse of 25,920 years this loss is so great, that the Sun has described a complete revolution and once again is back upon the place we noted. We see therefore that in 72 years the Sun is *one day* behind the fixed stars. Now these 72 years are approximately the normal life period of Man, and they are composed of 25,920 days.

Thus when we multiply 72 years by 360, and consider the human span of life as one day, we have the human life as *one day* of the Macrocosm. Man is breathed out, as it were, from the Macrocosm; his life is one day in the macrocosmic year.

So that this revolution, this circle described by the precession of the Equinoxes, indicating the macrocosmic year, as already known to the Egyptians thousands of years ago (for they looked upon this period of 72 years as very important), this apparent revolution of the Vernal point is connected with the *life and death of Man* in the Universe — with the life and death, that is, of the Macrocosm. And the laws of the life and death of Man are something that we are compelled to follow. We have already found how nutation points to another world; as our sense-perception world points to one world, so nutation points to another, the breathing world. And now through what present-day astronomy calls 'precession', we have something we may again call a transition, a transition this time to a state of deep sleep, a transition to still another, a third world. We have thus three worlds, interpenetrating one another, inter-related; but we must not attempt simply to combine these worlds from the point of view of causality. Three worlds, a three-fold world, as Man is a three-fold being; one, the world of sense surrounding us, the world we perceive; a second world whose presence is indicated by the motions of the Moon; and a third which makes itself known to us by the motion of the equinoctial point, or we might say, by the path of the Sun. This third world indeed remains about as unknown to us as the world of our own Will is unknown to our ordinary consciousness.

It is important therefore to search everywhere for correspondences between the human Microcosm and the Macrocosm. And when today the Oriental, if only in a decadent way, seeks to acquire breathing consciousness, as was done in the ancient Oriental wisdom, it is the manifestation of the desire to stray across into this other world which otherwise he could only recognise through what the Moon, so to speak, wills in our world. But in those times when there was still an ancient wisdom coming to man in a different way from that by which we have today to seek wisdom — in those times man also knew how to see this working of inner law in other connections and correspondences.

In the Old Testament the Initiates, who were familiar with these matters, used always a certain image or picture—the picture, namely, of the relation between Moon-light and Sun-light. This we can find also in a certain sense in the Gospels, as I have recently shown you.

We generally speak of the Moon-light being reflected Sunlight. I am speaking now in the sense of physics, and I shall have to show later on that these expressions are really very inaccurate. The Moon-light represented in the Old Testament the Jahve or Jehovah power. This power was conceived as a *reflected* power, and the Initiates—though not of course the orthodox Rabbis of the Old Testament—knew: The Messiah, the Christ will come, and He will be the *direct* Sun-light. Jahve is only His advance reflection. Jahve *is* the Sun-light, but not the *direct* Sun-light. Of course, here we are speaking not of physical sunlight, but of the spiritual reality.

Christ entered into human evolution, He who had been present previously only in reflection, in an indirect way in the form of Jehovah. And there arose the necessity to think of the Christ, who lived in Jesus, as the result of a *different* set of laws from those appertaining to ordinary natural science. But if we do not admit this other set of laws, if we believe that the world exists only as the result of cause and effect, then there is no place for That which is the Christ. His place must be prepared for Him by our recognition of three interpenetrating worlds. Then there is created the possibility of being able to say: It may be that in this world of sense everything is related through the law of cause and effect as maintained by natural science, but another world permeates this one, and to this other world belongs everything that has happened in the world that has connection with the Mystery of Golgotha.

In our times, when the desire for an understanding of these matters is becoming more and more manifest, it is important to realise that this understanding must be sought through the recognition of these three interpenetrating worlds, which exist simultaneously and are entirely different one from another. This means that we must seek not for one system of laws only, but for *three*; and we must seek for them within Man himself.

If you consider well what I have just said, you will see that it will not do to adopt the methods of the Copernican system, and simply draw ellipses intended to show the path of Saturn, Jupiter, Mars, Earth, Venus and Mercury and lastly of the Sun. That is not what is wanted at all. What is wanted is rather to look at the laws that are active in the worlds that are physically perceptible and see how these laws are cut across by an altogether different set of laws; and that especially the present Moon, in her motion, presents something that is in no way causally connected with the rest of the Stellar System, such as would be the case were the Moon a member of that System, like the other planets. The Moon however is to be referred to quite another world, which is, as it were, inserted into ours, and which indicates the breathing process of our Universe, as the Sun indicates the interpenetration of our Universe by the Ether.

Before one engages in Astronomy, one must educate oneself in a qualitative sense concerning that which moves in space, concerning the things that are interdependent in space. For one must be quite clear that Sun matter and any other matter — Earth matter for instance — can under no circumstances be brought into a simple relationship; because the matter of the Sun is, in comparison with the matter of the Earth, something absorbing and sucking, while the latter exerts pressure. The motions which express themselves in nutation are motions proceeding from the astral world, and not from anything that can be found in Newton's principles. It is just this Newtonism that has driven us so far into materialism, because it seizes on the uttermost abstractions. It speaks of a force of gravitation. The Sun, it says, attracts the Earth, or the Earth attracts the Moon; a force of attraction exists between these bodies, like some invisible cable. But if really nothing but this force of attraction existed, there would be no cause for the Moon to revolve round the Earth, or the Earth round the Sun; the Moon would simply fall on to the Earth. This would indeed have happened ages ago, if gravitation alone were acting; or the Earth would have fallen into the Sun. It is therefore quite impossible for us to look to gravitation alone for the means of explaining the imagined or actual motions of celestial bodies. So what do they do? Let us see! Here we have a Planet imbued with a constant desire to fall into the Sun — supposing we were to have the law of gravitation alone. But now we will suppose that this planet has at some time or other been given another force, a tangential force. This impetus acts with such and such a power, and the force of gravitation acts at the same time with such and such a power, so that eventually the planet does not fall into the Sun, but has to move along a line resulting from both forces.

You see that Newton's theory finds it necessary to assume some kind of original impetus, some kind of first push in the case of each planet, of each moving celestial body. There must always be some extra-mundane God somewhere, who gives this impetus, who imparts this tangential force. This is always presupposed; and remember, this assumption was made at a time when we had lost all idea of bringing the material and the spiritual into any kind of connection, when we were incapable of conceiving of anything but a perfectly external 'push'.

Here we have an instance of the inability of materialism to understand matter. I have repeatedly drawn your attention to this of late. It follows, that therefore materialism is also unable to understand the *motions* of matter, and is compelled to give quite an anthropomorphic explanation of them, picturing God as a being with wholly human attributes, who simply gives the Moon a push and the Earth a push. The Earth and Moon then 'attract' each other — and behold, from these two forces, the push and the attraction, we have their movements in the

heavens.

It is from ideas of this kind that the Solar system is constructed today. But to get a real understanding of the Universe it is absolutely necessary to look for the connection between that which lives in Man, and that which lives in the Macrocosm. For Man is an actual Microcosm in the Macrocosm. Of this we will speak further tomorrow.

LECTURE FIVE

Our studies of the last few days will have made it clear to you that it is altogether impossible to look upon the configuration of the spatial Universe and its movements in the way that is adopted by modern science. For not only is the Universe regarded as entirely separate from Man, but even the separate celestial bodies, which appear to our sight as disconnected from each other, are each treated as being isolated, and then in their isolation their effects upon each other are observed. It comes to the same thing as if, for example, we were to study the human organism by examining first an arm and then a leg, in order afterwards to understand the complete organism from the way in which the single members work together. But the fact is, it is not possible to comprehend the human organism by studying its individual members; but all investigation of the body of man must have its starting point in the *whole*, from which we can then proceed to the separate parts.

The same applies to the solar system, and also to the solar system in its relation to the whole visible stellar Universe. For the Sun, Moon, Earth and other planets are only parts of the whole system. Why should the Sun, for instance, be considered as an isolated body? There is absolutely no reason why we should imagine the Sun to be merely just where we see it, limited by the boundaries within which our eyes perceive it. In this connection the philosopher Schelling was quite correct when (he declined to ask the question, 'Where is the Sun?' with any other meaning than 'Where is his influence felt?') If the Sun acts upon the Earth, the effects of such activity must belong of necessity to the sphere of the Sun; and it is very wrong to extract a part from a whole and study that part by itself. But this is the very thing the modern materialistic conception of the Universe has set out to do, and its influence has grown stronger and stronger ever since the middle of the fifteenth century. This it is against which Goethe always fought, when he was alive, in his labours in the realm of natural science, and against which all true followers of his science must also fight. Goethe found himself compelled to draw attention to the fact that we must not study Nature without Man, without keeping in mind the relation of Nature to Man. The study of natural phenomena outside Man must have its basis in the understanding of the nature of Man.

The following example will show you the value of some of the assertions made by modern Astronomy. Modern Astronomy endeavours, with the use of all manner of arguments, to speak of an elliptic path of the Earth around the Sun; asserting that this motion was in the first place initiated by that tangential propulsion of which I spoke yesterday in connection with the gravitational attraction of the Sun. But Astronomy cannot, and does not, deny the fact that when speaking of attraction, not only does the Sun attract the Earth, but the Earth must also attract the Sun. This, however, obliges us to conclude that we cannot speak of a revolution in an elliptical path of the Earth around the Sun, for if the attraction be mutual we cannot have a one-sided motion of the Earth around the Sun, but both of them must revolve round a neutral point. In other words, this revolution cannot take place in a manner that would allow us to look on the Sun's centre as the pivot, but the pivot must be a neutral point situated between the centre of the Sun and the centre of the Earth. In telling you this I am not raising objections to Astronomy, I am merely telling you what you can find for yourselves in astronomical books. Thus we are compelled to admit the existence — somehow or other — of a pivot between the two spheres.

Our Astronomy, by way of consoling itself, maintains that this pivot or point lies within the Sun itself. Both Earth and Sun, then, revolve around this point. And so, once again, we get no direct revolution of Earth round Sun, but the Sun also revolves, revolving however around a point lying within itself. Thus exoteric Astronomy has come so far as to assume as pivot a point that is not the centre of the Sun, but lies in the line connecting Sun and Earth, yet still within the Sun. But now we are confronted with another difficulty. The size of the Sun has first to be calculated. (The truth of the above assumption depends upon the calculated size of the Sun.) Upon the result of such calculation is built a conclusion which must of course possess a certain limited validity (the calculations being made from evidence of the senses), but which need not necessarily be the criterion by which we judge the real being of what lies behind nature's phenomena.

Thus it is necessary to keep a strict eye upon modern Astronomy, as well as on other sciences, in order to discern the places — and they are numerous — where science over-reaches itself, and gets into difficulties.

This difficulty cannot be settled by studying the outer aspect of the phenomena; we can only arrive at a true result by examining the Universe in its relation to Man. We must, in the first place, take note of the previously explained connections between the Universe and Man; and then we must add a good many other facts, before we

can produce a perfectly true world-picture. We have said before that we must imagine, first of all, ordinary ponderable matter — matter that can be weighed. Light we cannot weigh; it does not belong to the realm of ponderable matter, neither does warmth (heat). First then, we must imagine the ponderable, then we must set over against this the ether. We said it is wrong to consider the Sun as consisting of ponderable matter like the matter of the Earth. The Sun is something which is actually less than space — so to speak, a ‘hollowing out’ of space; it is something that *sucks in*, in contradistinction to the *pressure* of ponderable matter.

And we have to do not only with an aggregation (in the Sun) of this absorbent ether in the outer Universe, but also with the fact that this ether is distributed far and wide. Everywhere we find, coexisting with the force of pressure, the absorbent force. We ourselves carry this force of suction in our own etheric bodies.

With this we completely exhaust all that we call Space. Pressure and Suction — these two, we find in Space. But not only do we possess our *physical* body, composed of ponderable matter which it assimilates and again expels, not only have we also an *etheric* body, composed of absorbent ether, but we have in addition an *astral* body — if we may use the term ‘body’ in this connection. What does the possession of this third body imply? It means that we have within us something that is no longer spatial, though it has a certain relation to space. This relationship can be proved when we realise that during waking hours the astral body interpenetrates the etheric and physical bodies. But the etheric body acts very differently when we are awake and when we are asleep. A different relation is established between the etheric and physical bodies when we wake, and this is caused by the astral body. It is active, and works upon the spatial, though it is not itself spatial. It brings order and organisation into the correlations of space. This organising activity of the astral body within us takes place also in the outer Universe, where it manifests in the following way.

Try for the moment to consider Space alone, and out of the whole visible Heavens, let us consider the regions that are indicated by the Zodiac. I do not intend here to deal in detail with the several Zodiacal signs, but let us consider the directions to which we look in the heavens when we turn, for instance, towards Aries (Ram), in the Zodiac; then Taurus, Gemini, Cancer, Leo, Virgo, Libra, Scorpio, Sagittarius, Capricorn, Aquarius and Pisces. All we have to note, in the first place, is that the space that lies before us as our visible Universe is divided in this way. The signs merely indicate the division, in so far as each of them denotes the boundary of a certain section of Space.

Now we must not imagine that these directions of space can be treated in such a manner that one might say: ‘There is empty space, and I just draw a line somewhere into it’.

There simply does not exist such a thing as mathematics calls ‘Space’; but everywhere are *lines of force*, *directions of force*, and these are not equal, they vary, they are differentiated. We can distinguish between these twelve regions by realising that if we turn in the direction of the sign Aries, the force we experience is a different one than it would be had we faced the sign Libra or Cancer. In each direction the force differs. Man will not admit this, as long as he lives merely in the world of the senses; but as soon as he ascends to the Imaginative life of the soul, he no longer experiences the directions in space as the same when facing Aries or Cancer, but feels their influence upon him as greatly differentiated.

To give you a parallel, I might put before you the following. Imagine that you arrange round you a circle of twelve persons in such a manner that those most sympathetic to you occupy one part of the circle, then come the less sympathetic, until on the other side you have all those who are antipathetic to you. (We are not, imagining the degree of sympathy or antipathy to result from any personal emotion; it may be merely a matter of outward appearances.) Now if you turn round within the circle, twelve pictures pass before your vision and at the same time you experience a graduated series of differentiated sensations. Man becomes aware of such a series of sensations if, after attaining to Imaginative perception, he moves around within the Zodiac. A similar gradation of sensation, a similar gradation of vision is produced in him, and it takes place within him the moment he escapes from the indifference of ordinary sense-existence. So when we are dealing with these various sections of space there is no sameness, for we must realise that each of these directions exerts a different influence upon us.

You see, here comes to light a fact intimately connected with the whole evolution of Man. Had he remained at the stage of the old consciousness, the atavistic picture-consciousness, he would still experience strongly the actuality of this differentiation in the various sections of the heavens; he would have been conscious of a sensation of sympathy towards one direction of Space and antipathy towards another. Man has however been

extricated from this play of forces by which at one time he was consciously surrounded, and he has been extricated from it just through the fact that his present organisation has placed him into the sense-world. But that Man is really organised in accordance with cosmic laws can even now be proved, and by quite external experiments, if attention is paid to certain phenomena. For it is by no means mere nonsense to say that certain sicknesses can be cured more quickly if the bed of the patient is placed in the direction of East to West. It is no superstition but a fact capable of definite proof. But this is not intended as a recommendation to each of you to Place your bed in a certain position! I have had so many experiences in this direction, that I feel it necessary to interject here a word of warning! It once happened to me in Berlin, for instance, that at the end of an anthroposophical discourse. I laid a certain emphasis upon the fact of being able to put on my galoshes when it was raining, without sitting down, saying that this could be done by first standing upon one leg and then upon the other, and I added 'And one ought to be able to stand upon one leg!' This was taken by some anthroposophists in such a way that I found upon returning from London to Berlin, that members of the Anthroposophical Society there were being recommended, as esoteric training, to stand upon one leg for a short time at midnight! Many assertions made about us have just as good a foundation. Time and again things of this sort get said and then find their way into this or that newspaper article by the pen of some well — or ill — disposed person — generally the latter. So I repeat, I have no wish at all to recommend you each to place his bed in one particular position. Nevertheless, this fact and many others show that even today, in the inner or subconscious part of his being, Man still stands in a certain relation to these exterior spatial differentiations, into which he has been placed.

Now through what means does Man possess these relationships? He possesses them through his astral body, which establishes these relations. They are only possible to him because through his astral body Man is a denizen of an astral world, a world which though acting upon Space is not itself spatial. We only conceive the Zodiac in its full meaning when we treat it as the representative of the astral world beyond.

And now, without having regard to present-day astronomical theories, let us examine these phenomena which appear to our sense of vision. We know that either actually or apparently the Sun passes through the Zodiac in various ways; in its daily course, in its yearly course, and again in its course through the Platonic year, through the precession of the equinoxes. This points to the fact that the effects upon us of that absorbent ether ball called Sun vary greatly, as they come from the different directions of Space. At one time the Sun's workings impinge upon us from a part we call Aries, at another time from a different section and so on.

Taking the case of an inhabitant of our own part of the globe, we can see that at any given time he has facing him one half of the Zodiacal signs, while the other half is obscured by the Earth. In other words, we are so placed in relation to this differentiation of Space, that we are turned directly towards the one part of the Zodiac while between the other and ourselves stands the Earth. Obviously this has nothing whatever to do with either an actual or an apparent motion; it is a simple fact that at any given moment we face one part of the Zodiac, while the other part is intercepted by the Earth. Now please try to imagine these sections of space with our Earth obscuring some of them. What does it signify for us? It is plain that the one half will influence us directly, the other not directly, but rather, shall I say, through its absence. At one time we have the direct working of these differentiated regions of space, at another time the working of their absence, the effect, as it were, of their non-presence. This fact is something which is *active* within us and enables us to some extent to bring into a kind of relationship that which is working directly upon us and that which is absent, from whose direct influence we are removed. For it opens up another possibility.

Let us say, from the direction of the Sign Cancer proceeds a certain kind of influence. This would be opposed by an influence from Capricorn, but the latter is taken away, is intercepted. Consequently I have in me the influence of Cancer and opposed to it the intercepted Capricornian influence; the influence of Cancer is thereby in a sense left in me, put into my hands, as it were. Of course, that which is absent cannot act upon me in the same way as that which is present; but I gain a certain influence as regards the Sign that acts upon me by reason of the opposition to its intercepted antithesis. Through the fact that I stand upon the Earth the celestial influences become quite different to what they would be, were I hovering freely in Space and directly exposed to them all.

I want you to note this point specially, and then you will realise that you cannot simply say: Above us we have the Signs Aries, Pisces, Aquarius, etc., and below Libra, Virgo, and so on, but you will have to conceive the

whole as an organisation, with yourself harnessed into it. And as you progress, on account of the Earth's revolution, from sign to sign you are being carried through all these direct influences in turn. Here at one point, the Scorpio influence was taken away from you, and there at another point you have been carried into it. An analogy is the taking of food; you were hungry, the food was not there within you, but after the meal the food is present within you. The Scorpio influence was absent here, but at this other point became active. And so we form connections with the surrounding Cosmos as we come into different relations with it through the movement of the Earth. But is Man conscious of these varying influences, while yet on the physical plane? No, he is not; we have seen that the physical world takes him away from them. But the moment he withdraws with his astral body and Ego from his physical and etheric bodies, he finds himself within these forces; they act directly and strongly upon him. These extra-earthly, heavenly influences then make onset upon that part of Man which is no longer connected with the physical and etheric; they act upon it as powerfully as food upon the physical body. It is just this descent into the physical that is the cause of Man's withdrawal from these outer influences. We may therefore consider the astral body as being in a sense part of the celestial, and not of the terrestrial Universe, for when, together with the Ego, it is outside the physical body, we have to co-ordinate it to the non-terrestrial influences.

By considering the matter in this way, we are gradually brought to the conclusion that Man becomes receptive to these celestial forces in so far as he ceases to act through the organs of his physical body — that is to say, when he is, through this non-activity, more or less in a state of sleep. Man as a child is always more or less asleep, therefore the child is much more receptive to the celestial influences than the man. As he grows up he works his way further and further into earthly conditions. During childhood, all that is within the skin is still plastic and in a state of formation. The formative powers become less and less active with the years, until, at a considerably later point in life, they become very small indeed. This shows that the inner physical formation-process stands in a certain relation to the movements and configurations of the outer celestial Universe. But the part of our being which, as far as consciousness is concerned, remains in a continual state of sleep — such as our heart-activity, our digestive processes, etc.; in fact, all the inner physical processes — all this part of our being remains under the influences of the super-physical during the whole of our life. (These processes are induced in the same way as is the process that goes on when I take a step forward consciously, only they are all directed inward instead of outward.)

Let us take a characteristic example. By means of the inner movements of the intestines the chyme is propelled further on its path. These are internal movements within the boundary of the human skin, and therefore, as we have said, dependent upon what is beyond the Earth. Fundamentally, Man as Man is dependent only upon the terrestrial, upon ponderable-terrestrial matter, in all that affects him from outside his skin. But the moment any outer act or circumstance is translated into activity within the skin, then there begins in his organism an activity that is related to the supersensible.

When you take a piece of sugar into the palm of your hand, you feel its weight physically, you raise it to your lips; the process is still physical. But as soon as you dissolve it on the tongue and it enters the sphere of taste, it no longer remains within the scope of Earthly processes but becomes subject to extra-Earthly forces.

In order to find the working of the extra-Earthly, we must penetrate into what is enclosed within the human skin. This will lead you to the realisation of the fact, that while you go about in the world, bearing round with you, as it were, your whole man, you are in the realm of the Earthly. But as soon as you come within, even only within the physical organisation, you are no longer in the realm of the Earthly, but have entered a sphere dependent upon extra-Earthly forces. You can easily prove for yourselves the fact that within you resides something that is not merged into earthly existence, if you carry your memory back to the oft-repeated fact, that the human brain floats in the meningeal fluid. If this were not the case, the pressure of the brain upon the organs placed on the floor of the skull would crush all the blood vessels. Any text book dealing with such matters will tell you the weight of the brain. If your choice is a 'Bischoff', you will notice he asserts that the female brain is much lighter than that of a male, which assertion was rendered absurd later on, to the delight of the ladies, when it was found upon examination, that the brain of Bischoff himself proved to be a good deal less in weight than the lightest of the female brains examined by him. This is only by the way, as an example of the general value of human judgements.

The human brain however, possessing as it does a considerable weight — at least 1,200 to 1,300 grammes —

does not exert a pressure in anything like accord with its actual weight, but only, as we might say, a weight of comparatively few grammes, because of the upward pressure of the meningeal fluid. You remember the law of Archimedes, according to which the weight of an object is reduced by the weight of the water it displaces. Therefore the pressure of the brain is equal to only a few grammes because it floats in fluid. Had it a tendency to press downwards with its full weight, Man could not use his brain for thought. It overcomes its weight because it floats in fluid. We do not think with the matter of the brain, but with that which withdraws itself from the matter, with the upward striving forces, with that which grows beyond the Earth. And we must follow this out into all parts of Man's organisation. Just as we withdraw ourselves inwardly from the forces of terrestrial gravity in the case of the weight of the brain (exteriorly, of course, this is impossible, the brain upon the scales shows its full weight, even while within us), so do we similarly sever ourselves from earthly physical and chemical forces of other kinds.

What enables us to sever ourselves from these forces? It is the Ego and the astral body. As soon as these act upon the etheric and physical bodies in such a way as to withdraw the etheric from the physical, the absorbent force is then absent, and only ponderable matter remains. The ponderable matter is not part of the Earth, for the Earth does not retain it in its original form, but destroys it. The Earth-forces do not contain in them that which gives to Man his form. That is not difficult to comprehend, for we have seen that we sever ourselves inwardly from the Earth-forces. With all that is in him through his astral body and Ego, man is related to forces that are active beyond the Earth.

Our next question must be: What is the nature of this relation? To ascertain this, we must in a certain way study the whole quality and nature of Man. We find in the first place his complete *form* or *figure*. I do not mean by this the form which I would draw if I were to make a sketch of him, but the whole configuration, the whole formation of Man. It would include, e.g. the fact that the eyes are placed in the face, and the heels on the feet; for this is part of the inner configuration of Man in accordance with law.

Expressionistic painters may assert that Man could be drawn in such a way that his toe takes the place of his nose, or that one eye is placed here and the other in his hand. Yes, there really are such people, but they only show how little inner relationship they have with the world. We have indeed these days progressed so far in materialistic thought as to be able to depict single things *separately*, when they really belong together with the whole and ought not to be depicted each for itself.

We have therefore first Man's complete form; and this, as you know very well, is not produced as a figure is produced that is, for instance, carved in wood, but is formed from within. We cannot even re-carve any part that does not happen to meet with our approval. The human form is modeled by forces residing in the periphery and they are forces from beyond the Earth. Therefore when we contemplate a human form, we are looking at a product of the extra-earthly.

Secondly we can distinguish in Man, apart from his form, all that comes under the category of *internal motion*. Take, for instance, the blood and the other bodily juices; these possess internal motion. This also is produced from within; it is, so to speak, situated even deeper in Man than his form. The latter presses forward to the periphery, while internal motion takes place entirely within; and it is again a process that stands in relation with the world that is beyond the Earth.

Thirdly, *the activity of the organs*. Organs such as the lungs, liver, spleen, etc., are responsible for activities within Man, and it is these activities I will name as the third thing we find in Man. This need not cause you any surprise, rather should it lead you to seek the reason.

Consider for example, an important organ, namely, the heart, of which I have recently spoken repeatedly. We realise that in a certain sense, the heart has been welded together.

By following up Embryology, we find how the heart is gradually welded together or piled up, as it were, by the blood circulation, and is not a primary form. This is verified by Embryology. And it is the same with other organs. They are the *results* of these circulations, rather than the causes of them. Within the organs the circulation comes to a standstill, it undergoes a kind of metamorphosis, and proceeds further in a different way. To illustrate the idea, let us say we have a stream of water falling over a rock. It throws up a variety of formations and then flows on. These formations are caused by the forces of equilibrium and motion at this place.

Now imagine that suddenly all this were to petrify; a skin would be formed like a wall, then the rest would flow on again, and we should have an organic structure formed. We should have the current going through the structure coming out again and flowing on further in an altered form. You can imagine something like this in the case of the flow of blood, as it circulates through the heart. I can only indicate these things here. They are well grounded, but here only an indication of them can be given.

Although the organs in the manner of their formation depend upon the flow of inner forces, yet they are something in the inner part of Man that again comes into relation with what is outside. We have here something which, as you can see from an example I will give, stands in closer relation with the Earthly; through these organs we are brought from the interior into contact with the exterior.

Take the case of the lungs. The lungs are organs, but they are at the same time the basis of respiration. As the instrument for the transmutation of inhaled oxygen into exhaled carbonic acid, the lungs form a relation with something that has significance for Man, but yet exists outside him in the realm of the Earthly. In this way we return, as it were, to the terrestrial environment by way of the organic activities. The moment we overstep, through organic activity, the boundary of our skin, we are outside, in the terrestrial sphere. You see, all these processes that take place entirely within us, the formation and regulation of fluidic movements, etc., stand in a relationship with the extra-earthly; whereas when we come to the organs we again approach the terrestrial. Here we have the union of Heaven and Earth in Man. The lungs are built up by the extra-Earthly, but what they do with the oxygen brings them into relation with the Earthly. And now, when Man takes up still more earthly substances and receives them into his organism, he comes into immediate contact, through the process of *metabolism* with the truly Earthly.

Thus we can study man from four different points of view: *Complete Form*, in so far as this is built up from within outwards; *Internal Motion*, *Organic Activity* and *Metabolism*. If we study the complete form, which is entirely constructed by inner forces, we find that it has the least connection of all with the Earthly. This point will be further explained to-morrow. We only begin to gain an understanding of the connection when we relate, as we shall do to-morrow, the complete form of Man to the *Zodiac*. The inner motion, the circulation of the blood, lymph, etc., can only be conceived in their reality, when related to our *planetary system*. And when we come to the activity of the organs, we are already *approaching the terrestrial*.

I gave you the example of the lungs, which, in respect to their internal construction, are formed by extra-terrestrial forces, but where they come into relation with oxygen, are in relation with the air. Other human organs come into relation with water, others again with heat, etc. Therefore, in studying the activity of the organs, we come into contact with the *Elemental* world-with fire, water, air. Only when our observations are centred upon actual assimilation, or metabolism, are we in the sphere of the *Earth*. The Elemental world is that which encompasses the Earth as the sphere of water and of air, and only when we encounter the process of metabolism, do we approach the relation of Man with the Earth itself.

In this way we can discover Man's relation to the Universe that surrounds him:

Zodiac:	(1) Complete form
World of the Planets:	(2) Internal Motions
World of the Elements:	(3) Activity of the Organs
Earth:	(4) Metabolism

And now consider, if we understand the form of Man in all its nature and conditions, and find the possibility of tracing it back to the Zodiac — that is, to the world of fixed stars — then and then only are we able to form, from *Man*, an idea of all that is visible to us in surrounding space; for it cannot be investigated by mechanical or mathematical means, but only through a knowledge of the complete form of Man. Neither are planetary motions to be examined merely by means of a telescope. With a telescope one finds their positions-setting it first to one star and then to the other, finding the angle, and in this way discovering the positions. What is actually present in the processes of the Planet-World is something that is formed from within outwards. It is by a study of the

activities in the saps and juices in Man that we shall learn to understand the planetary activities. Similarly, if we comprehend our own organic activities, we shall also understand what goes on in the Elemental world; and when we are able to understand what happens in Man in the moment when earthly substance is introduced into his metabolic system, we shall possess the key to the Earth activities, and be able to separate them spatially from all extra-earthly activities.

LECTURE SIX

We have seen that we must search for a harmony between the processes taking place in and with Man, and the processes that take place in the outer Universe. Let us once again recall briefly the point whither our study of yesterday led us. We said that Man had to be regarded, to begin with, from four points of view. Firstly, from the standpoint of the forces which are responsible for his form; secondly from that which comprises all the forces expressing themselves in the circulation of the blood, lymph, etc., in short the forces of internal motion. (You already know that the formative forces are to a large extent in a state of rest in the fully grown man, whereas the inner motion is in a state of continual flow.) Thirdly, we have the organic forces, and fourthly, the actual metabolism.

To begin with we must consider all that has connection with the formative forces. These are the forces which work outward from within until they reach the outermost periphery, the limits of man's circumference. If we formed a silhouette of man, seen as it were from all sides, we should comprehend and enclose the outermost extremities of the activities resulting from these inner forces, which build from within outwards.

Now it should not be difficult to understand that these forces of formation must be connected with other forces, which, like them, belong to the periphery of man, and are to be discovered there. These latter are the forces having their activities in the senses. The senses of man lie, as you know, upon the periphery. They are of course distributed over it and differentiated, but in order to come into contact with the forces acting in the senses you must look for them at the periphery, and this justifies us in saying that the formative forces must have a connection with the activity of the senses.

We shall perhaps understand this point better if we remember the words that Goethe quotes as having been uttered by one of the old mystics.

“Were the eye not Sun-like in itself,
How could we see the Sun?”

Now it cannot be the light-activity surrounding us all the time that is meant when the eye is said to be sun-like or light-like, for this light-activity can be perceived by the eye only when the eye is completely formed. It cannot therefore be this that is meant, when we are speaking of the building up of the eye. We must imagine this light-activity as something intrinsically different. And it is a fact that we arrive at a certain conception of what underlies this saying, if we follow man during the time between death and a new birth. For during this period his experiences consist in part — but of course, only in part — in a perception of the gradual transformation of the forces within him from the preceding physical life to the new one; and he perceives how the limb-man is transformed in the time between death and a new birth into the head-form. These experiences are no less rich in content than are those experiences we live through in this life, when we watch the gradual quickening of the plants in Spring and their decay in Autumn, etc.

All this building up that goes on in man in the time between death and re-birth is a great wealth of events, a wealth of real happenings which are by no means so easy to grasp as the mere abstract idea of them. All that takes place during this time to effect the transformation of the forces of the limb-man into those of the head for the new incarnation, is extraordinarily manifold. Man himself partakes in the process. He experiences for instance, something akin to the *building up of the eye*. But he does not experience it in the same manner as he did during the long evolutionary period, when he passed through the various evolutionary stages preceding our Earth, namely, those of Moon, Sun and Saturn. The forces of the Stellar Universe then acted upon him in a different way. This Stellar Universe was also in a different form from what it is now.

It is of great importance to form clear ideas on these matters. If we consider our present perceptions of what is around us, what are they? they are really pictures. Behind these pictures, of course, lies the real world; but it is the world that lies behind these pictures, which actually built up man before he had evolved sufficiently to be able to perceive these pictures. Today we perceive with our eyes the pictures of the surrounding world. Behind these lies that which has built up our eyes. This brings us to the truth: Had not the forces residing behind the picture of the Sun constructed the eye, the eye could not perceive the picture of the Sun.

The saying, you see, has to be modified, for while the perception of light today gives pictures, yet what first built up the organs into the periphery of man were not pictures, but *realities*. So that when we look around us in this world, what we perceive are really the forces that have built us up — our own formative forces. They have now drawn into us; that which acted from without up to the Earth period, now works from within.

We will retain this thought for our succeeding studies and will now bring together the first and fourth of these forces.

1. Forces of Form.
2. Forces of Inner Movements.
3. Organic Forces.
4. Assimilative, or metabolic forces.

Let us, for the moment, consider the last named. The process of metabolism has already become in some degree irregular; but there are natural causes which still lead Man to hold to a certain regularity in this respect; and you all know that he is inconvenienced if, for some reason or other, he fails in the rhythmic process of assimilation. He can deviate from it within limits, but he always endeavours to return again to a certain rhythm; and you know that this rhythm is one of the first essentials of physical health. It is a rhythm that embraces day and night. Within 24 hours the rhythmic process of metabolism is completed. Twenty-four hours after breakfast you again have an appetite for breakfast. All that is connected with assimilation is connected also with the day's course. I would now ask you to compare the solidity, the firmness of the bodily periphery with the mobility of the forces of assimilation. One can say that no alterations take place in the former, while assimilation repeats itself every 24 hours. A great deal takes place inside your organism, but your periphery remains unchanged. Now try to discover, in the outer world, something corresponding with this inner mobility in relation to firmness, that you find in Man. Look at the Universe of Stars. Note how the constellations move as little as do the particles on the surface of the human periphery. You will find that the constellation of Aries is always at a fixed distance from the constellation of Taurus, just as your two eyes remain at the same distance from one another. But *apparently* this *wholestellar* heaven moves; apparently it revolves around the Earth. Well, in respect of this, men are today no longer ignorant, they know that the movement is merely apparent, and ascribe its appearance to a revolution of the Earth upon her own axis.

Many have been the attempts to find proof for this revolution of the Earth on her axis. It was really only during the fifties of the last century that man began to have the right to speak of such a revolution, for it was only then that the pendulum experiments of Foucault showed this turning of the Earth. I will not go into this further today. We have however, in this way, valid proof of this terrestrial process, which repeats itself every 24 hours. It represents, in relation to the fixed constellations, the analogy of the rhythmic course of metabolism in man as compared to the fixed nature of his peripheric form; and here you can find, if you examine thoroughly all the conditions and relationships, exact evidence for the movement of the Earth in the processes of metabolism in man.

In these times we come across various so-called theories of relativity which claim that we cannot really speak of absolute motion. If I look out of the window of a railway carriage and think that the objects outside are moving, in reality it is the train and myself that are moving. Neither however can it be strictly proved that the world outside is not also moving in an opposite direction! All this kind of talk is, as a matter of fact, not of much value. For if one man walks forward and another man stands still in the distance while he approaches him it is, *relatively* speaking, immaterial whether he says: "I approach him" or "he approaches me". Looked at in this way there seems to be no difference. Such considerations as this form, as you know, the foundations of the Einstein theories of relativity.

It is all very well — but there is a way whereby one can strictly *prove* the motion, for the person who remains at rest will not experience fatigue, whereas the one who walks will do so. By means of inner processes the absolute reality of motion can thus be proved; indeed there are no other proofs but the inner processes. Applying this to the Earth, we can truly speak there too of absolute motion, for through Spiritual Science we learn to realise that this motion is the equivalent of the inner motion of metabolism as compared with the fixed form of man. We should not lay so much stress upon the fact that the Earth rotates round its axis and thereby brings about an apparent Solar motion in space, but should instead relate this terrestrial motion to the whole

Starry Universe; we should not speak of Sun days, but rather of Star days — which are not synonymous, for the Stellar day is shorter than the Solar day. A correction is always necessary in formulae dealing with the Solar day. Hence we can truly speak of this movement of the Earth on her axis as of something derivable from Man's nature; for as already pointed out, with the revolution considered in its relation to the fixed starry heavens is connected the inner motion of metabolism in Man. To sum up, the relation of metabolism in Man to the forces responsible for the form of Man is the relation of the Earth to the Heaven of Fixed Stars, which latter is represented for us by the Zodiac.

When we look at the Zodiac, it forms for us the outer cosmic representative of our own outer form. When we consider the Earth, we have before us the representative of the assimilative forces within us; and the relation of movement in each case corresponds.

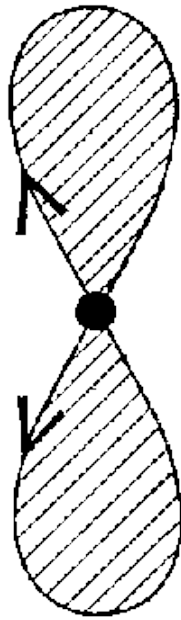
Now it will be a little more difficult to find the relationship between (2) and (3), between Inner Movements and Organic Forces. We can however make the matter comprehensible in the following way. If you consider the movements within the human organism, you will readily conclude that they are something in Man that is in no way so fixed as his outer periphery. They are in motion. But something further is connected with this movement. The movements include that of the blood as well as the nerve-fluid, lymph, etc. We need not give a detailed list of them here, but there are seven of these inner movements. Connected with these movements are the individual organs. The forces of motion have produced, within their courses, these organs; in the latter we must recognise the results of these motions. I have often drawn attention recently to the real truth concerning the human heart. The materialistic view of the world, as I have pointed out, is of opinion that the heart is a kind of pump, forcing the blood through the whole body. But this is not the case; on the contrary, the pulsation of the heart is not the cause but the *effect* of circulation. Into the living inner motions or movements is inserted the functioning of the organs.

If we try to discover a cosmic equivalent for this, we will find it by observing, on the one hand, the movements of the Planets, especially if we consider their motions in relation to the movements of the moon. You will know — having already had this explanation in previous lectures — the connection between the lunar motion and the phenomena of the tides; and much more besides is connected with this lunar motion. Were we to study the phenomena of Nature more deeply, we should find that not only does *light* appear as a result of the sunrise, but other — and indeed more material — effects in our Earth-environment are to be connected with the planetary motion. When once this is made the basis of real, genuine study, we shall realise the harmony existing between many phenomena on the Earth and the motions of the planets. We shall study the effects of the planetary influence upon air, water and earth, in the same way as we have to study — in the human body — the influences upon their respective organs of the forces of inner movement existing in the circulation of the blood and in other circulations. In this way we shall discover a certain reciprocal action between the organic activities and the forces of inner movement. Just as we have already observed a correspondence between Earth and the Fixed Stars, so now we shall in fact have before us a similar correspondence between earth, water, air, fire (heat) and the planets — among which we reckon, of course, the Sun.

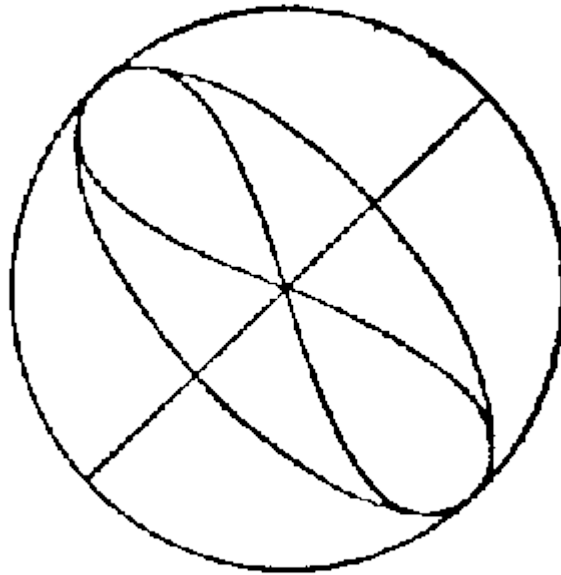
Thus we arrive at a certain relation between occurrences within the human organism and those taking place outside in the Macrocosm. For the present, however, we need concern ourselves only with the organic forces. How are they built up in the human body? They are built up in such a manner that as we follow the human life during the periods of this building-up process of the organs, we may recognise with a fair degree of accuracy that the process is related to the course of the year as metabolism is related to the course of the day. Observe how this building process takes place in the child, commencing at conception and proceeding until he first 'sees the light of the world' as it is beautifully expressed. After this, and especially during the first months after birth, the building-up process proceeds still further; so that, in very fact, we have here to do with a year's course. Then we have another period of about one year to the appearance of the first teeth. Thus, in the building process of the organs we have a yearly course. But this course stands in a similar relation to the forces of inner movement in Man as the varied conditions of the year's activity — Spring, Summer, Autumn and Winter — do to the planets. Here again we discover something in Man that has correspondences in the Macrocosm. We cannot study these matters in any other way than by comparing details with each other. All I can do today is to draw your attention to certain facts that bear upon this subject, for were we to examine the connections in detail it would take us too long; but by studying certain relationships in Man during the actual building process of the organs, and seeing

them in connection with the forces of inner movement, you can find everywhere analogies of that which takes place in the quarterly changes in the Seasons, as seen in their relationship to the forces of planetary motion. But we must avoid commencing our examination upon the basis of the heart being a pump; on the contrary, the heart must be viewed as a creation of the circulation of the blood. We must, so to speak, insert the heart into a living blood-circulation. The movement of the Sun too must be thought of as similarly inserted into the movements of the Planets. An unbiased examination of the intra-human conditions compels us to speak of a revolution of the Earth on her axis causing an apparent motion of the starry heavens — for this constitutes the equivalent of the movements connected with metabolism in their relations to the human outer form. But we cannot speak of a movement of the Earth around the Sun during the year. We cannot do this, if we understand the inner man which lives in close connection with the Macrocosm; for we must not conceive of that which moves towards the heart, in any other manner than we would the other flows of movement within man. We must therefore recognise that we are concerned not with an elliptical movement of the Earth in the course of the year but rather with a movement which corresponds to the Solar motion. That is, Earth and Sun *move together* in the course of the year; the one does not circle around the other. The latter opinion is the result of judging appearances; in actuality we have here the motion of both these bodies in space with a certain connection between the two. This is something in the Copernican theory that will have to be substantially corrected. But there is yet another way in which we must conceive the relation of man with macrocosmic nature.

What really is the nature of the process which we observe in the daily movement of metabolism? Only part of this process is carried on in such a way as to be accompanied by the phenomena of our consciousness, another part being accomplished while consciousness is shut off, while the Ego and astral body are separated from the physical and etheric. Now we must especially note the following. Man does not experience in *the same way* what takes place between awaking and going to sleep and what takes place between going to sleep and awaking. Just consider the relation between the two moments of time — going to sleep and awaking. If you do this with an unprejudiced mind, you will arrive at an unequivocal view of this matter. When you go to sleep, you are, as it were, at the zero of your being; the condition of sleep is not merely one of rest, it is the antithetical condition of the waking state. When you awake, you are, from the standpoint of your life, really in the same relation to yourself and your environment as you are at the moment of going to sleep. The one is the equivalent of the other, the only difference being that of *direction*. Awaking means passing from sleep to the waking state; falling asleep is the reverse. Apart from direction they are absolutely alike. Therefore if we could indicate the movements of metabolism by a line, then it cannot be a straight line or a circle, for they would not contain the points of awaking and of falling asleep. We must find a line which actually depicts the movements of metabolism, so as to contain these points, and the only one — search as long as you like — is the lemniscate. Here you have the point of awaking in one direction and the point of falling asleep in the other direction. The directions alone are opposite, the two movements being equal as regards life-condition. We can now distinguish in a real way the cycle of day and the cycle of night.



Whither does all this lead? If we have grasped the fact that the motion of the daily metabolism corresponds to the motion of the Earth, we can no longer, with the Earth here (diagram) attribute to any one point a circular motion. (On the contrary, we must form the conception that the Earth in actual fact proceeds along her path in such a way as to produce a line like that of the lemniscate. The motion is not a simple revolution, but a more complicated movement; each point of the terrestrial surface describes a lemniscate, which is also the line described by the metabolic process.



We cannot therefore imagine the Earth's movement to consist merely of a turning round the axis, for in reality it is a complicated motion in which every point upon which you stand, describes — actually in *order* to form the foundation for the movement of your metabolic processes — a lemniscate. It is absolutely necessary to seek in the movements of the outer Universe the equivalent of movements taking place within Man. For only by a study of the changes within physical Man can we arrive at an understanding of the planetary motions exterior to Man. When a man sets his limbs in motion and *becomes tired*, we cannot go on arguing the point as to whether he is in relative or actual motion! It is out of the question to say: Perhaps the movement is only relative,

perhaps the other man whom he is approaching is after all really approaching him! Theories of Relativity no longer hold water, when the inner motion *proves* that man moves. And it is impossible also to prove the movements in the interior of the Earth, except by means of the inner changes that go on in Man. The movements of metabolism, for example, are the true reflection of that which the Earth executes as motion in space. And again, that which we have termed the organ-building forces, active in the course of the year, are the equivalent of the annual motion of Earth and Sun together. We shall have occasion to speak more specifically of these things later; at the moment I should like to draw your attention once more to our model, where I have pointed out that the Earth moves behind the Sun in a screw-like line, the Earth moving along always with the Sun. And then if we view the line from above, we get a projection of the line and the projection shows a lemniscate.

Now all this will make it clear that we can certainly speak of a daily motion of the Earth around her axis, but by no means of a yearly motion of the Earth around the Sun. For the Earth follows the Sun, describing the same path.

Various other facts show that we have no right to speak of such a revolution. To give one instance, the fact that it was found necessary — I have spoken of this before — simply to suppress one statement of Copernicus. Were the Earth revolving round the Sun, we should of course expect her axis, which owing to its inertia remains parallel, to point in the direction of different fixed stars during this revolution. But it does not! If the Earth revolved round the Sun, the axis could not indicate the direction of the Pole-star, for the point indicated would itself have to revolve round the Polestar; it does not however do this, the axis continually indicates the Pole-star. That line which should be apparent to us and which would correspond to the progressive motion of the Earth in her relation to the Sun, is not to be found.

It is in a spiral, screw-like path that the Earth follows the Sun, boring her way, as it were, into cosmic space.

I have already indicated however that there is another movement which manifests in the phenomena of the precession of the equinoxes — the movement of the point of sunrise at the Spring-equinox through the Zodiac, once in 25,920 years. This also is the equivalent of a certain motion in Man. What can we find within Man corresponding to it? You may be able to come to a conclusion on this point from what I have said above. We have to find a motion equivalent to the relation of the Sun to the Fixed Stars, for the point of sunrise progresses through the complete Zodiac — or fixed stars — once in 25,920 years. The equivalent in Man is the relation between the forces of inner movement and the forces of form; this must therefore also be of long duration. The forces of inner movement in Man must change in some way, so as to alter their position in relation to the periphery of Man.

You will remember what I said about something that has been observable since the period of ancient Greece. I said that the Greeks used the same word for ‘yellow’ and ‘green’, that they really did not see blue in the same way as we do, but actually, as reported by Roman writers, realised and used four colours only in their art, namely yellow, red, black and white. They saw these four living colours. To them the sky was not blue as we see it; it appeared to them as a kind of darkness. Now this is an assertion that can be made in all certainty, and Spiritual Science confirms it. This change in Man has taken place since the time of ancient Greece. When you ponder over the fact that the constitution of the human eye has undergone such a degree of modification since the period of ancient Greece, you can then also conceive of other alterations in the human organism, taking place upon the periphery and occupying still longer periods of time for their accomplishment. Such alterations upon the periphery must of necessity bear a relation to the forces of inner movement, for, of course, they cannot be produced by the digestion or the organic functions. These peripheric modifications correspond, as a matter of fact, to the course of the vernal equinox in the Zodiac, to a period, that is, of 25,920 years. During this period the human race undergoes complete change. We must not make the mistake of thinking that previous to that time humanity appeared as we now see it. Consideration of the circumstances connected with physical existence makes it absurd to use the figures given us by modern geology for the purpose of following human evolution in time, for we can comprise this only in the period of 25,920 years, and part of that is still in the future. When the vernal equinox has come back again to the same place, the alterations that will have taken place in the whole human race are such that the human form will be quite dissimilar to what it is now. I have already told you something derived from other sources of cognition about the future of the human race and about its age. And here we see how the consideration of physical conditions compels a recognition of the same knowledge.

As a result of the above we arrive at the realisation that what we call the 'movements of the heavenly bodies' are not quite as simple as present day astronomy would have us believe, but that we enter here into extremely complicated conditions-conditions that can be studied from the standpoint of Man's connection with the Macrocosm. I have already been able to point out to you certain details of the motions of the heavenly bodies, and we shall in course of time learn more and more about them from other sources. You will be able already to see one thing — that man is not wholly dependent upon the Macrocosm. With what lies deep down in the subconscious, with the processes namely of assimilation, he is still in a certain way — but only in a certain way — bound to the Earth's daily revolution around her axis. Nevertheless, he can lift himself out of this connection. How is this? It is possible because man as he now is, built up in accordance with the forces of the periphery and of inner movement, with the forces too of the organs and of the metabolic system, is complete and finished in his dependence on the forces from without; and now he is able, with his complete and finished organisation to sever himself from this connection. In the same sense that we have in waking and sleeping a copy of day and night, having thus in ourselves the inner rhythm of day and night, but not needing to make this inner rhythm *correspond* with the outer rhythm of day and night (i.e. we need not sleep at night, nor wake during the day), so in a similar way does Man sever his connection with the Macrocosm in other departments of his existence. Upon this is founded the possibility of human *free-will*. It is not the *present* formation of Man that is dependent upon the Macrocosm, but his past formation. Man's present experiences are fundamentally a picture or copy of his past adaptation to the Macrocosm, and in this sense we live in the pictures of our past. Within these we are enabled to evolve our freedom, and from them we receive our moral laws, which are independent of the necessity ruling in our nature. It is when we understand clearly how Man and Macrocosm are related to each other that we recognise the possibility of free-will in Man.

Finally we must think over the following. It is clear that in Man the metabolic forces are still, in a certain respect, connected with the rhythm of his daily life. The forces of form have solidified. Now consider the animal instead of Man. Here we shall find a much more complete dependence upon the Macrocosm. Man has grown out of or beyond this dependence. The ancient wisdom therefore spoke of the *Zodiac or Animal Circle*, not of the Man Circle, as corresponding to the forces of formation. The forces of form manifest themselves in the animal kingdom in a great variety of forms, while in Man they manifest essentially in *one* form covering the whole human race; but they are the forces of the animal kingdom, and as we evolve beyond them and become Man, we must go out *beyond* the Zodiac. Beyond the Zodiac lies that upon which we, as human beings, are dependent in a higher sense than we are upon all that exists within the Zodiac, that is, within the circle of the fixed stars. Beyond the Zodiac is that which corresponds to our Ego.

With the astral body — which the animal also possesses — we are fettered to a dependence upon the Macrocosm, and the building up of the astral vehicle takes place in accordance with the will of the Stars. But with our 'I' or Ego we transcend this Zodiac.

Here we have the principle upon which we have gained our freedom. Within the Zodiac we cannot sin, any more than can the animals; we begin to sin as soon as we carry our action beyond the Zodiac. This happens when we do that which makes us free from our connection with the Universal forces of formation, when we enter into relationship with regions exterior to the Zodiac or region of fixed stars. And this is the essential content of the human Ego.

You see, we may measure the Universe in so far as it appears to us a visible and temporal thing, we may measure its full extension through space to the outermost fixed stars, and all that takes place by way of movement in time in this starry heaven, and we may consider all this in its relation to Man; but in Man is being fulfilled something that goes on *outside* this space and *outside* this time, outside all that takes place in the astral. There beyond, is no 'necessity of Nature', but only that has place which is intimately connected with our moral nature and moral actions. Within the Zodiac we are unable to evolve our moral nature; but in so far as we evolve it, we record it into the Macrocosm beyond the Zodiac. All that we do remains and works in the world. The processes taking place within us from the forces of formation to the forces of metabolism, are the result of the past. But the past does not prejudge the whole of the future, it has no power over that future which eventuates *from Man himself in his moral actions*.

I can only lead you forward in this study step by step. Keep well in mind what I have said today and in my next lecture we will examine the matter from yet another point of view.

LECTURE SEVEN

The last lectures here described a path which, if followed in the right way, leads to a perception of the Universe and its organisation. As you have seen, this path compels a continuous search for the harmony existing between the process taking place in Man and the processes observed in the Universe. Tomorrow and the day after I shall have to treat our subject in such a way that the friends who have come to attend the General Meeting may be able to receive something from the two lectures at which they are present. To-morrow I shall go over again some of what has been said in order then to connect with it something fresh.

In perusing my *Occult Science — an Outline*, you will have seen that in the description it gives of the evolution of the known Universe a point is made of keeping everywhere in view the relationship of that evolution to the evolution of Man himself. Beginning with the Saturn period which was followed by the Sun and Moon periods preceding the Earth period, you will remember that the Saturn period was characterised by the laying of the first foundations of the human senses. And along this line of thought the book proceeds. Everywhere universal conditions are considered in a way that at the same time also describes the evolution of Man. In short, Man is not considered as standing in the Universe as modern science sees him — the outer Universe on the one hand, and Man on the other — two entities that do not rightly belong to each other. Here, on the contrary, the two are regarded as merged into each other, and the evolution of both is followed together. This conception must, of necessity, be applied also to the *present* attributes, forces and motions of the Universe. We cannot consider first the Universe abstractly in its purely spatial aspect, as is done in the Galileo-Copernican system, and then Man as existing beside it; we must allow both to merge into one another in our study.

This is only possible, when we have acquired an understanding of Man himself. I have already shown you how little modern natural science is in a position really to explain Man. What does science do, for instance, in that sphere where it is greatest, judging by modern methods of thought? It states in a grand manner that Man has evolved physically from other lower forms. It then shows how, during the embryonic period, Man passes again rapidly through these forms in recapitulation. This means that Man is looked upon as the highest of the animals. Science contemplates the animal kingdom and then builds up Man from what is found there; in other words, it examines everything non-human, and then says: 'Here we come to a standstill; here Man begins'. Natural science does not feel called upon to study Man as Man, and consequently any real understanding of his nature is out of the question.

It is in truth very necessary today for people who claim to be experts in this domain of nature, to examine Goethe's investigations in natural science, particularly his Theory of Colours. Here a very different method of investigation is used from that to which we today are accustomed. At the very commencement mention is made of subjective, and of physiological colours, and the phenomena of the living experience of the human eye in connection with its environment are then carefully investigated. It is shown, for example, how these experiences or impressions do not merely last as long as the eye is exposed to its surroundings, but that an after-effect remains. You all know a very simple phenomenon connected with this. You gaze at a red surface, and then quickly turning to a white surface you will see the red in the green after-colour. This shows that the eye is, in a certain sense, still under the influence of the original impression. There is here no need to examine into the reason why the second colour seen should be green, we will only keep to the more general fact that the eye retains the after-effect of its experience.

We have here to do with an experience on the periphery of the human body, for the eye is on the periphery. When we contemplate this experience, we find that for a certain limited time the eye retains the after-effect of the impression; after that the experience ceases, and the eye can then expose itself to new impressions without interference from the last one.

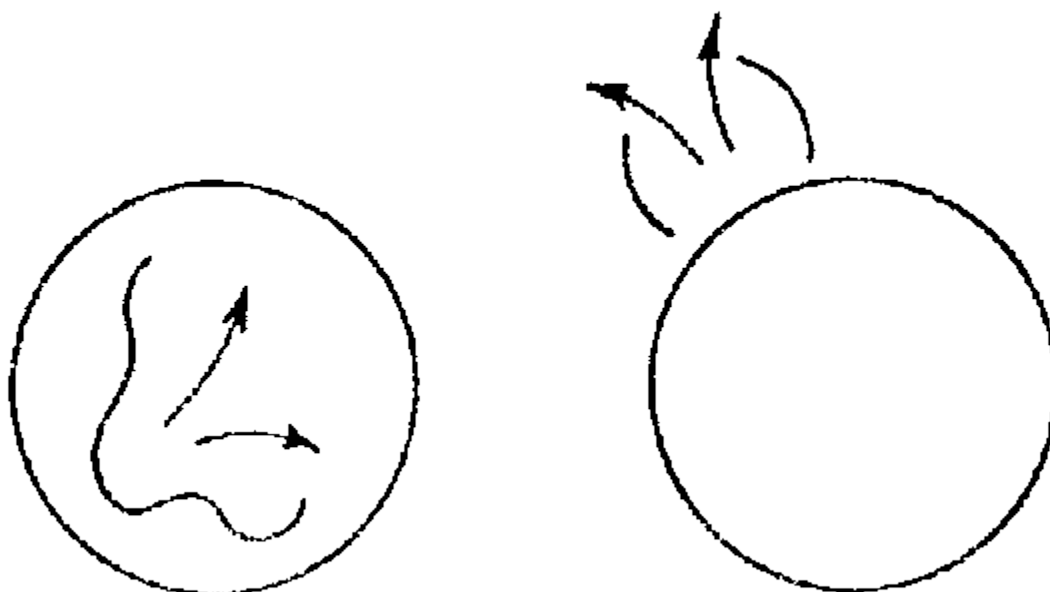
Let us now consider quite objectively a phenomenon connected not with any single localised organ of the human organism, but with the whole human being. Provided our observations are unprejudiced, we cannot fail to recognise that this experience made by the whole human being is related to the experience with the localised eye. We expose ourselves to an impression, to an experience, with our whole being. In so doing, we absorb this experience just as the eye absorbs the impression of the colour to which it is exposed; and we find that after the

lapse of months, or even years, the after-effect comes forth in the form of a thought-picture. The whole phenomenon is somewhat different, but you will not fail to recognise the relation of this memory picture to that after-picture of an experience which the eye retains for a short limited time.

This is the kind of question that man must face, for he can only gain some knowledge of the world when he learns to ask questions in the correct way. Let us therefore ask ourselves: What is the connection between these two phenomena — between the after-picture of the eye and the memory picture that rises up within us in relation with a certain experience? As soon as we put our question in this form and require a definite answer, we realise that the whole method of the present-day natural-scientific thought completely fails to supply the answer; and it fails because of its ignorance of one great fact — the fact of the universal significance of *metamorphosis*. This metamorphosis is something that is not completed in Man within the limits of one life, but only plays itself out in consecutive lives on Earth.

You will remember that in order to gain a true insight into the nature of Man, we divided him into three parts: head, rhythmic man and limbs. We may, for the present purpose, consider the last two as one, and we then have the head-organisation on the one hand and all that makes up the remaining parts on the other. As we try to comprehend this head-organisation, we must be able to understand how it is related to the whole evolution of Man. The head is a later metamorphosis, a transformation, of the rest of Man, *considered in terms of its forces*. Were you to imagine yourself without your head-and of course also without whatever is present in the rest of the organism but really belongs to the head — you would, in the first place, think of the remaining portion of your organism as substantial. But here we are not concerned with substance; it is the *inter-relation of the forces* of this substance which undergoes a complete transformation in the period between death and a new birth and becomes in the next incarnation the head-organisation. In other words, that which you now include in the lower part (the rhythmic man and the limbs) is an earlier metamorphosis of what is going to be head-organisation. But if you wish to understand how this metamorphosis proceeds, you will have to consider the following.

Take any one organ — liver or kidney — of your lower man, and compare it with your head-organisation. You will at once become aware of a fundamental, essential difference; namely, that all the activities of the lower parts of the body as distinct from the upper or head, are directed *inwards*, as instanced by the kidneys, whose whole activity is exercised interiorly. The activity of the kidneys is an activity of secretion. In comparing this organ with a characteristic organ of the head — the eye, for instance — you find the construction of the latter to be the exact opposite. It is directed entirely *outwards*, and the results of the changing impressions are transmitted inwardly to the reason, to the head. In any particular organ of the head you have the polar opposite of an organ belonging to the other part of the body. We might depict this fact diagrammatically.



Take the drawing on the left as the first metamorphosis, and the drawing on the right as the second; then you will have to imagine the first as the first life, and the second as the second life, and between the two is the life between death and a new birth. We have first an inner organ which is directed inward. Owing to the transformation taking place between two physical lives, the whole position and direction of this organ is entirely reversed — it now opens outwards. So that an organ which develops its activity inwardly in one incarnation, develops it outwardly in the succeeding life. You can now imagine that something has happened between the two incarnations that may be compared with putting on a glove, taking it off and turning it inside out; upon wearing the glove again, the surface which was previously turned inward comes outside, and vice versa. Thus it must be noted that this metamorphosis does not merely transform the organs, but turns them inside out; inner becomes outer. We can now say that the organs of the body (taking ‘body’ as the opposite to ‘head’) have been transformed. So that one or other of our abdominal organs, for instance, has now become our eyes in this incarnation. It has been reversed in its active forces, has become an eye, and has attained the ability to generate after-effects following upon impressions from without. Now this faculty must owe its origin to something.

Let us consider the eye and the mission of its life-activity, in an unbiased way. These after-effects only prove to us that the eye is a living thing. They prove that the eye, for a little while, retains impressions; and why? I will use as a simile something simpler. Suppose you touch silk; your organ of touch retains an after-effect of the smoothness of silk. If later on you again touch silk, you recognise it by what the first impression left behind with you. It is the same with the eye. *The after-effect is somehow connected with recognition.* The inner life which produces this after-effect, plays a part in the recognition. But the outer object, when recognised, remains outside. If I see any one of you now, and to-morrow meet you again and recognise you, you are physically present before me.

Now compare this with the inner organ of which the eye is a transformation in respect to its activity and forces. In this organ must reside something which in a certain sense corresponds to the eye's capacity for retaining pictures of impressions, something akin to the inner life of the eye; but it must be directed inward. And this must also have some connection with recognition. But to recognise an experience means to remember it. So when we look for the fundamental metamorphosis of the eye's activity in a former life, we must enquire into the activity of that organ which acts for the memory.

It is impossible to explain these things in simple language such as is often desired at the present day, but we can direct our thoughts along a certain line which, if followed up, will lead us to this conception — namely that all our sense-organs which are directed outward have their correspondences in the inner organs, and that these latter are also the organs of memory. With the eye we *see* that which recurs as an impression from the outer world, while with those organs within the human body which correspond to the previous metamorphosis of the eye, we remember the pictures transmitted through the eye. We *hear* sound with the ear, and with the inner organ corresponding to the ear we remember that sound. Thereby the *whole* man as he directs or opens his organs inward, becomes an *organ of memory*. We confront the outer world, taking it into ourselves in the form of impressions. Materialistic natural science claims that we receive an impression, for instance, with the aid of the eye. The impression is transmitted to the optic nerve. But here the activity apparently ceases; as regards the process of cognition, the whole remaining organism is like the fifth wheel of a wagon! But this is far from being the truth. All that we perceive passes over into the rest of the organism. The nerves have no direct relation with memory. On the contrary the entire human body, the whole man, becomes a memory instrument, only specialised according to the particular organ that directs its activity inwards. Materialism is experiencing a tragic paradox — it fails to comprehend matter, because it sticks fast to its abstractions! It becomes more and more abstract, the spiritual is more and more filtered away; therefore it cannot penetrate to the essence of material phenomena, for it does not recognise the spiritual within the material. For instance materialism does not realise that our internal organs have very much more to do with our memory than has the brain, which merely prepares the idea or images so that they can be absorbed by the other organs of the whole body. In this connection our science is a perpetuation of a one-sided asceticism, which consists in unwillingness to understand the spirituality of the material world and a desire to overcome it. Our science has learnt sufficient asceticism to deprive itself of the capacity for understanding the world, when it claims that the eyes and other sense-organs receive the various impressions, pass them on to the nervous system and then to something else, which remains undefined. But this undefined “something” is the entire remaining organism! Here it is that memories originate through the transmutation of the organs.

This was very well known in the days when no spurious asceticism oppressed human perception. Therefore we find that the ancients, when speaking of 'hypochondria' for example, did not speak of it in the same way as does modern man and even the psycho-analyst when he maintains that hypochondria is merely psychic, is something rooted in the soul. No, hypochondria means a hardening of the abdominal and lower parts. The ancients knew well enough that this hardening of the abdominal system has as its result what we call hypochondria, and the English language which gives evidence of a less advanced stage than other European tongues, still contains a remnant of memory of this correspondence between the material and the spiritual. I can, at the moment, only remind you of one instance of this. In English, depression is called "spleen". The word is the same as the name of the physical organ that has very much to do with this depression. For this condition of soul cannot be explained out of the nervous system, the explanation for it is to be found in the spleen. We might find a good many such correspondences, for the genius of language has preserved much; and even if words have become somewhat transformed for the purpose of applying them to the soul, yet they point to an insight Man once possessed in ancient times and that stood him in good stead.

To repeat — you, as entire Man, observe the surrounding world, and this world reacts upon your organs, which adapt themselves to these experiences according to their nature. In a medical school, when anatomy is being studied, the liver is just called liver, be it the liver of a man of 50 or of 25, of a musician or of one who understands as much of music as a cow does of Sunday after regaling itself upon grass for a week! It is simply liver. The fact is that a great difference exists between the liver of a musician and that of a non-musician, for the liver is very closely connected with all that may be summed up as the musical conceptions that live and resound in Man. It is of no use to look at the liver with the eye of an ascetic and see it as an inferior organ; for that apparently humble organ is the seat of all that lives in and expresses itself through the beautiful sequence of melody; it is closely concerned e.g. with the act of listening to a symphony. We must clearly understand that the liver also possesses etheric organs; it is these latter which, in the first place, have to do with music. But the outer physical liver is, in a certain sense, an externalisation of the etheric liver, and its form is like the form of the latter. In this way you see, you prepare your organs; and if it depended entirely upon yourself, the instruments of your senses, would, in the next incarnation, be a replica of the experiences you had made in the world in the present incarnation. But this is true only in measure, for in the interval between death and a new birth Beings of the higher Hierarchies come to our aid, and they do not always decide that injuries produced upon our organs by lack of knowledge or of self-control should be carried by us as our fate. We receive help between death and re-birth, and are therefore, in respect of this portion of our constitution, not dependent upon ourselves alone.

From all this you will see that a relation really exists between the head organisation and the rest of the body with its organs. The body becomes head, and we lose the head at death in so far as its formative forces are concerned. Therefore it is so essentially bony in its structure and is preserved longer on Earth than the rest of the organism, which fact is only the outer sign that it is lost to us for our following re-incarnation, in respect to all that we have to experience between death and re-birth. The ancient atavistic wisdom perceived these things plainly, and especially when that great relation between Man and Macrocosm was investigated, which we find expressed in the ancient description of the movements of the heavenly bodies. The genius of language has also here preserved a great deal. As I pointed out yesterday, physical Man adheres internally to the day-cycle. He demands breakfast *every day*, and not only on Sunday. Breakfast, dinner and supper are required every day, and not only breakfast on Sunday, dinner on Wednesday and supper on Saturday. Man is bound to the 24 hour cycle in respect to his metabolism — or the transmutation of matter from the outer world. This day-cycle in the interior of Man corresponds to the daily motion of the Earth upon its axis. These things were closely perceived by the ancient wisdom. Man did not feel that he was a creature apart from the Earth, for he knew that he conformed to its motions; he knew also the nature of that to which he conformed. Those who have an understanding for ancient works of art — though the examples still preserved today offer but little opportunity for studying these things — will be aware of a living sense, on the part of the ancients, of the connection of Man the Microcosm with the Macrocosm. It is proved by the position certain figures take up in their pictures, and the positions that certain others are beginning to assume etc.; in these, cosmic movements are constantly imitated.

But we shall find something of even greater significance in another consideration.

In almost all the peoples inhabiting this Earth, you find a recognised distinction or comparison existing between the week and the day. You have, on the one hand, the cycle of the transmutation of substances — or

metabolism, which expresses itself in the taking of meals at regular intervals.. Man has however never reckoned according to this cycle alone; he has added to the day-cycle a week-cycle. He first distinguished this rising and setting of the Sun — corresponding to a *day*; then he added Monday, Tuesday, Wednesday, Thursday, Friday and Saturday, a cycle seven times that of the other, after which he came back once again to Sunday. (In a certain sense, after completing seven such cycles, we return also again to the starting-point.) We experience this in the contrast between day *and* week. But Man wished to express a great deal more by this contrast. He wished first to show the connection of the *daily* cycle with the motion of the Sun.

But there is a cycle seven times as great, which, whilst returning again to the Sun, includes all the planets — Sun, Moon, Mercury, Venus, Mars Jupiter and Saturn. This is the *weekly* cycle. This was intended to signify that, having one cycle corresponding to a day, and one seven times greater that included the planets, not only does the Earth revolve upon its axis (or the Sun go round), but the whole system has in itself also a movement. The movement can be seen in various other examples. If you take the course of the year's cycle, then you have in the year, as you know, 52 weeks, so that 7 weeks is about the seventh part — in point of number — of the year. This means, we imagine the week-cycle extended or stretched over the year, taking the beginning and end of the year as corresponding to the beginning and end of the week. And this necessitates the thought that all phenomena resulting from the weekly cycle must take place at a different speed from those events having their origin in the daily cycle.

And where are we to look for the origin of the feeling which impels us to reckon, now with the day-cycle, and now with the week-cycle? It arises from the sensation within us of the contrast between the human head-development, and that of the rest of the organism. We see the human head-organisation represented by a process to which I have already drawn your attention — the formation within about a year's cycle of the first teeth.

If you consider the first and second dentition you will see that the second takes place after a cycle that is seven times as long as the cycle of the first dentition. We may say that as the one year-cycle in respect to the first dentition stands to the cycle of human evolution that works up to the second dentition, so does the day stand to the week. The ancients felt this to be true, because they rightly understood another thing. They understood that the first dentition was primarily the result of heredity. You only need look at the embryo to realise that its development proceeds out of the head organisation; it annexes, as it were, the remainder of the organism later. You will then understand that the idea of the ancients was quite correct when they saw a connection of the formation of the *first teeth* with the *head* and of the *second teeth* with the *whole human organism*. And today we must arrive at the same result if we consider these phenomena objectively. The first teeth are connected with the forces of the human head, the second with the forces that work from out of the rest of the organism and penetrate into the head.

Through looking at the matter in this way, we have indicated an important difference between the head and the rest of the human body. The difference is one which can, in the first place, be considered as connected with time, for that which takes place in the human head has a seven times greater rapidity than that which takes place in the rest of the human organism. Let us translate this into rational language. Let us say, today you have eaten your usual number of meals in the proper sequence. Your organism demands a repetition of them to-morrow. Not so the *head*. This acts according to another measure of time; it must wait *seven days* before the food taken into the rest of the organism has proceeded far enough to enable the head to assimilate it. Supposing this to be Sunday, your head would have to wait until next Sunday before it would be in a position to benefit by the fruit of To-day's Sunday dinner. In the head organisation, a repetition takes Place after a period of seven days, of what has been accomplished seven days before in the organism. All this the ancients knew intuitively and expressed by saying: a week is necessary to transmute what is physical and bodily into soul and spirit.

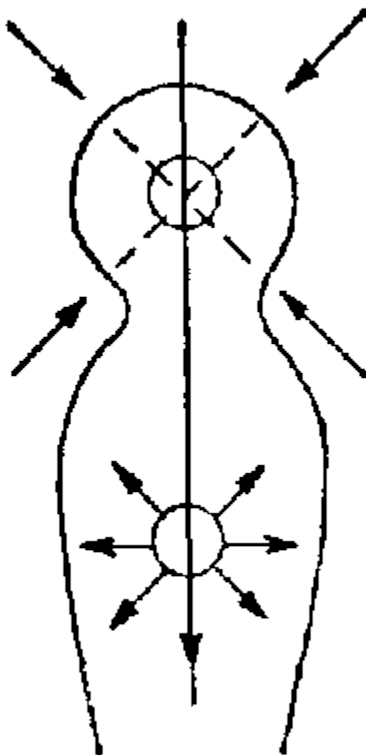
You will now see that metamorphosis also brings about a repetition in the succeeding incarnation in 'single' time of that which previously required a seven times longer period to accomplish. We are thus concerned with a metamorphosis which is *spatial* through the fact that our remaining organism — our body — is not merely transformed, but turned inside out, and is at the same time *temporal*, in that our head organisation has remained behind to the extent of a period seven times as long.

It will be clear to you now that this human organisation is not, after all, quite so simple as our modern, comfort-loving science would like to believe. We must make up our mind to regard Man's organisation as much

more complicated; for if we do not understand Man rightly, we are also prevented from realising the cosmic movements in which he takes part. The descriptions of the Universe circulated since the beginning of modern times are mere abstractions, for they are described without a knowledge of Man.

This is the reform that is necessary, above all, in Astronomy — a reform demanding the re-inclusion of *Man* in the scheme of things, when cosmic movements are being studied. Such studies will then naturally be somewhat more difficult.

Goethe felt intuitively the metamorphosis of the skull from the vertebrae, when, in a Venetian Jewish burial ground, he found a sheep's skull which had fallen apart into its various small sections; these enabled him to study the transformation of the vertebrae, and he then pursued his discovery in detail. Modern science has also touched upon this line of research. You will find some interesting observations relating to the matter, and some hypotheses built up upon it, by the comparative anatomist Karl Gegenbaur; but in reality Gegenbaur created obstacles for the Goethean intuitional research, for he failed to find sufficient reason to declare himself in favour of the parallel between the vertebrae and the single sections of the skull. Why did he fail? Because so long as people think only of a *transformation* and disregard the *reversal inside out*, so long will they gain only an approximate idea of the similarity of the two kinds of bones. For in reality the bones of the skull result from those forces which act upon Man between death and rebirth, and they are therefore bound to be essentially different in appearance from merely transformed bone. They are turned inside out; it is this reversal which is the important point.



Imagine we have here (diagram) the upper or head-man. All influences or impressions proceed inward from without. Here below would be the rest of the human body. Here everything works from within outwards, but so as to remain within the organism. Let me put it in another way. With his head man stands in relation to his outer environment, while with his lower organism he is related to the processes taking place within himself. The abstract mystic says: "Look within to find the reality of the outer world." But this is merely abstract thought, it does not accord with the actual path. The reality of the outer world is not found through inner contemplation of all that acts upon us from outside; we must go deeper and consider ourselves as a duality, and allow the world to take form in quite a different part of our being. That is why abstract mysticism yields so little fruit, and why it is necessary to think here too of an inner process.

I do not expect any of you to allow your dinner to stand before you untouched, depending upon the

attractive appearance of it to appease your hunger! Life could not be supported in this way. No! We must induce that process which runs its course in the 24-hour cycle, and which, if we consider the whole man, including the upper or head organisation, only finishes its course after seven days. But that which is assimilated spiritually — for it has really to be assimilated and not merely contemplated! — also requires for this process a period seven times as long. Therefore it becomes necessary first intellectually to assimilate all we absorb. But to see it reborn again within us, we must wait seven years. Only then has it developed into that which it was intended to be. That is why after the founding of the Anthroposophical Society in 1901 we had to wait patiently, seven, and even fourteen years for the result!

LECTURE EIGHT

I would like to bring forward again, in a rather different form, a few remarks made in the course of our studies. You know that the fact of the intimate relation between man and the Universe was much better known to methods of perception used by the ancients than to ours of the present day. If we were to go back to the period of the Egypto-Chaldean culture, we should find that man did not look upon himself as a separate being who perambulates the Earth, but as a being belonging to the whole Universe. He knew of course to begin with that in a certain sense he was dependent upon the Earth. That can easily be observed; even our own materialistic age admits that Man, as far as his physical metabolism is concerned, depends upon the Earth's products, which he assimilates. But in those ancient times, by means of course of atavistic perception, Man knew himself to be dependent also in his *soul* on the one hand on the elements of fire, water and air, and on the other hand on the movements of the planets. These he related to his soul-nature in the same way as he related the products of the Earth to his physical metabolism. And the part of the Universe that is outside or beyond the planetary system, all that is in the starry heavens — this he connected with his *spirit*.

Thus in those past ages, when materialism was out of the question, man knew himself to be living in the bosom of the Universe. You may now ask: Yes, but how is it that the man of those times made such big mistakes in connection with the movements of the heavenly bodies, while today, in this materialistic age, he has made such magnificent progress in relation to the real truth of these movements? Well, we have spoken of these things for a considerable time and we have pointed out that the movements man believes in today are asserted by science merely on the basis of certain prejudices. Upon this subject I shall have more to say tomorrow, but for the moment we may remind ourselves that present-day man has entirely lost consciousness of the fact that that which belongs to the whole man can no more be discovered in the physical world than in the visible stellar world. For it is absolutely impossible to gain a true perception even of the visible starry heavens, unless man combines with the outer physical life the super-physical in his considerations — that super-physical part of his life through which he passes between death and re-birth. Yesterday we drew attention to the metamorphosis that takes place in man in this change from earthly to super-earthly life and showed how the organs which we consider as belonging to the lower man (and of which we said yesterday that they open inwards), transform themselves — as regards their *forces*, though obviously not in their substance — during the period between death and a new birth, and become what is considered to be the more noble head-organism. This latter is in reality nothing more than the metamorphosis — as regards the structure of its forces — of the so-called 'lower' man of the last Earth-life.

If we really think this matter over, we can see — in spirit — how between death and re-birth, man has a certain content within him of his experiences, as he has also here between birth and death. But the content is essentially different in each case. We may make this difference clear by saying: between birth and death, man has, as the circumference for his experiences, the circumference in Space, and also that which takes place in Time. He has these — Space and Time — as a circumference for his experiences.

You know in how small a degree man really experiences the processes of his inner organism. He is not conscious of them. All the organisation within the skin is known to man only indirectly and incompletely. The knowledge gained through anatomy and physiology is not real knowledge, for we do not by means of this investigation look into the actual interior of man; it is an illusion to believe that we do. Spiritual Science alone gradually reveals all that is within man. But how do we find conditions in this respect during the interval between death and a new birth? We have to put it in this way. In a certain sense we look then *from the periphery upon the centre*. And we know just as little of the periphery as we do here of our centre or interior. But on the other hand we have during this period a direct perception of the secrets and mysteries of Man himself. That which is hidden within us — within our skin — that we observe between death and a new birth as our experiences.

Now you will perhaps say that this world which we view during the time between death and re-birth must be a very small one indeed. But spatial dimensions do not count at all. It is the fullness or poverty of the content that matters, not the size. If we combine all we observe in the mineral, plant and animal kingdoms, and add thereto the starry heavens, it would not compare in richness with the mysteries within Man himself. The real

process is approximately as follows. We lose the structural forces of the head when we pass over in death. They have completed their office. But then the spiritual world takes up the structural forces of the remaining (lower) organism, which from being inner experience belong now to the periphery, and transforms them in such a way that when the time is ripe, from out of the spiritual world the human head is determined in the womb of the mother.

We must be absolutely clear upon this point. The very first beginning of the corporeal man within the mother, is a result of the whole process we have been describing. Conception is merely the opportunity given for a certain cosmic activity to penetrate the human body, and that which is formed first in the process of man's formation is indeed an image of the whole Cosmos. He who wishes to study the human embryo from its first stage onwards, must consider it as an image of the Cosmos.

These matters are today almost entirely overlooked. For of what do we generally think when we speak of the origin of a human being in the physical sense? Of heredity! We observe how the child-organism is formed within the parent-organism, and we are ignorant of how the cosmic forces which surround us are active within the parent-organism; we are ignorant of the fact that the whole Macrocosm projects its force into the human being in order to make possible the genesis of a new human being.

Of course, the great fault of our present-day world-philosophy is that we never take the Macrocosm into consideration, and therefore never become conscious of where lie the forces whose effect we observe. I must once again remind you of the following. The modern physicist or chemist says that there are molecules which are composed of atoms, that the atoms possess forces by means of which they act upon each other. Now this is a conception which simply does not accord with reality. The truth is, that the minutest molecule is acted upon by the *whole starry heavens*. Suppose here is a planet, here another, here another, and so on. Then there are the fixed stars, which transmit their forces into the molecule. All these lines of force intersect each other in various ways. The Planets also transmit their forces in the same way, and we come to realise that the molecule is nothing but a *focus of macrocosmic forces*. It is the ardent desire of modern science to bring microscopy far enough to enable the atoms to be seen within the molecule. This way of looking at the subject must cease. Instead of wishing to examine the structure of the molecule microscopically, we must turn our gaze outwards to the starry heavens, we must look at the constellations and see copper in one, tin in another! Out there in the Macrocosm we have to behold the structure of the molecule that is only *reflected* in the molecule. Instead of passing into the infinitely little, we must turn our gaze outwards to the infinitely great, for it is there we have to look for the reality of what lives in the little.

In this way does the materialistic conception of things also affect other domains of thought. Someone who considers himself capable of giving an opinion on the progress of human knowledge may say: the nineteenth century materialism is now overcome! No! It is not overcome so long as men still think atomically, so long as they fail to search in the great for the form and configuration of the small. Neither is the materialism relative to humanity overcome, so long as we continue to ignore the connection of Man the Microcosm with the Macrocosm.

And at this point we are confronted with a new — I might say a monstrous — evidence of materialism, to which I have previously drawn attention. It is in so-called Theosophy that its traces are often to be found, where a tendency is present to look at things in the following way. Here we have matter; then ether, thinner than matter but otherwise similar to physical matter; then comes the astral — again thinner or finer than the etheric; and after that quite a number of other beautiful things, all thinner and thinner and thinner. Call it Kama-manas, or what you will, it is not spiritual, but remains materialistic! The truth is that in order to arrive at a real understanding of the world, we must conceive of heavy, ponderable matter as ceasing at the *ether*; for we must clearly understand that this ether is essentially a very different thing from that substance of which we speak as filling space. When speaking of this latter substance, we think of space as filled with matter. But this we cannot do when we speak of ether, for then we must conceive space as being empty of matter. When ordinary matter strikes some other object, the object is repelled or pushed away. When ether approaches an object, it attracts it and draws it within itself. The activity of ether is the exact opposite to that of matter. Ether acts as an absorbent. Were this otherwise, you would present the same appearance back and front, for even in this diversity of the physical appearance of man we have the result, on the one hand of the pressure of ponderable matter, and on the other of the absorbing action of ether. Your nose is forced outwards, as it were, from your organism through the pressure of matter,

while the eye sockets are drawn inward through the action of ether. It is therefore simply a pressing and absorbing substance acting within you which differentiates the exterior appearance of your front and back. These are things which are not usually taken into consideration.

Further, when we come to speak of the astral, we must not think of three-dimensional physical matter extending in a three-fold way in space, nor must we think of the absorbent ether, but of a third factor, one that forms the adjustment or connection between the other two. And should we then go on and attempt to form some approximate idea of that part of our being termed the Ego — the 'I am' — we would have to include a fourth factor, which acts as mediator between, on the one hand, the absorbent-repelling action of ether and physical matter, and on the other hand, the astral substance. These are the things that must be taken into consideration.

You cannot logically ask: If the ether has merely a sucking, absorbing action, how then is it possible for us to perceive it? The fact is, ether stands, figuratively speaking, in the same relation in respect to ponderable matter — I am speaking now in a picture — as the relation we find in another plane if we have a bottle of soda-water. We cannot see the water in the bottle, but the pearly bubbles we can see, although these are 'thinner' than the water. And so it is in the case of the ether, which is a 'hollow' in physical matter and therefore the essential antithesis of physical matter; it also can be perceived.

From the foregoing you will now see that it is necessary, when speaking of the life between death and re-birth, to realise that this life is actually lived *beyond space* — beyond the space of which we are cognisant on the Earth-plane; and we shall have to endeavour to gain a conception of this 'beyond' of space. You can best do so by trying first to imagine 'filled' space. Take for instance, a table; it fills or occupies space. Then you pass from 'filled' space to 'empty' space, and perhaps you would say that you cannot go beyond this. But as I have previously pointed out to you, this would be about as sensible as to say: 'I have a full purse out of which I continue to take money till nothing is left; this "nothing" cannot be less than it is'. But it can be less if you get into debt, when you would have less than nothing in your purse! Similarly empty space can be less than empty by being filled with ether, when it becomes a negative entity.

And that which adjusts or connects the two, that which mediates also in you between pressure and suction, is the astral. No relation would exist between the front and back of a human body did not the astral activity within form the connection between the absorbent and the pressing elements. You will say: I do not observe this connecting element. But try to follow the digestive process, and you will find the connecting link very clearly manifested. The astral is active there, and its activity is based upon the contrast between the front and back nature of the human being, even as the connection between the higher (head) man and lower (limb) man by way of the astral is based upon the Ego. We must therefore consider man, as he stands before us, in a quite concrete manner and make clear to ourselves that while he has existence upon this plane between birth and death he imprints his astral part and his Ego in the absorbent and pressure-producing elements, but his being only manifests here on Earth as the mediator between the front and the back, and between the upper and the lower parts of the body.

Now, what is this mediator or connecting link? It is that which we experience within us when we feel our equilibrium. We do not jerk the head forward and backward; we stand and walk *erect*. We accommodate our posture to the demands of the laws of equilibrium. We cannot *see* this, but we experience it inwardly. When we pass through the gate of death we consciously adjust ourselves to this condition, of which here we take no heed. If we possessed eyes only, it would then be dark around us, and if we had ears only, stillness would envelop us. But we have also the *sense of equilibrium*, and the *sense of motion*, and so we become able after all to 'experience' there. We take part in that which on Earth is implied in the words 'equilibrium' and 'movement'. We adapt ourselves to the movements of the external world, we find our way into them.

You see, here, in the life between birth and death, the only way we experience the activity of the Earth's revolution upon its axis is in our daily metabolic process. We must take our daily meals, and this together with the succeeding digestive processes takes place within the limits of 24 hours, uniform with one revolution of the Earth. These two things belong together, the one is proof of the other. When we die, the revolution of the Earth becomes something *real*, as real as are the visible objects here. Then we *live with* this terrestrial motion; we begin to experience this motion consciously.

There are also other motions connected with the starry heavens, all of which we experience after death.

Correctly considered, the description of our experiences already includes this experience, for we do not expand into the Cosmos like a jelly-fish, but we take part in the life of the Cosmos — and as beings taking part in cosmic life we experience at the same time the inner being of man. Between birth and death we say: My heart is within my breast, and in it converge the streams or motions of the blood-circulation. At a certain stage of development between death and re-birth we say: In my inner being is the Sun — and by this expression we mean the actual Sun, which the physicist claims to be a ball of gas, but which is in reality something quite different. We experience the actual Sun in the same manner as we experience here the heart. Here the Sun is visible to the eye, whereas during the time between death and re-birth the evolution of the heart on its path to the pineal gland, as it undergoes on the way a wonderful metamorphosis, is the cause of sublime experiences. The complete system of our blood-circulation we experience consciously in its transformation; we have this system within existence between death and re-birth proceeds, these forces undergo transmutation, so that, when once again we arrive at the gates of a new Earth-life, they have become the forces of us — not, of course, the substance, but the forces. As our new nervous-system. Look at the plates and illustrations scattered through modern books on anatomy or physiology and examine the circulatory system of the blood in *one* incarnation. This in the next incarnation becomes the life of the nerves. (We must not depict in diagrammatic form the head, breast (rhythmic) and limb systems as existing side by side, for they interpenetrate each other.) Note the wonderful structure of the human eye; there we find blood-vessels, choroid and retina (omentum). The last two are transformations of each other. What today is retina, was in the last incarnation choroid, and what is choroid today will be retina in the next incarnation. Of course this must not be taken too literally, but such is the approximate course of events. So you will understand that we cannot gain an essential conception of man if we merely study him as he appears between birth and death or even along the lines by which he develops through the forces of physical heredity. For thereby we understand man at most as far as the circulatory system; that would be the last process we would understand. The nervous system of the present life is a result of a former life, and can never be understood if studied in connection with the present life alone.

Now my dear friends, I beg of you not to object to what I have explained, by saying that animals have also a nervous system although they have no earlier lives. Such an objection would indeed be very short-sighted; for though in man the forces of his nervous system are the transformation of the blood-circulation of the former life, that does not imply that the same is valid in the case of animals. It would be just as logical to go to a barber and ask him to sell you a razor for the dinner-table — a razor being a knife, and knives forming part of the dinner service! Razors however do not! Nothing carries *within itself* its immediate purpose, neither does a physical organ. The human organ is entirely different from the animal organ. It depends upon the use to be made of an organ. We should not compare the human nervous system with that of an animal, but rather observe the fact that human nerves have become similar — during the course of their evolution — to animal nerves, just as the razor has become similar to the table-knife. This again demonstrates that when man follows the ordinary materialistic line of investigation, he can arrive at no true conclusion. Yet that is just the path which is being followed today.

It is this kind of investigation that prevents us from arriving at a conception of man as a *product of the spiritual world*. Our religious creeds, as they have gradually developed, have pandered too much to human egoism. It may almost be said that their one and only aim is to convince their followers of a continuation of life after death, because the egoism of humanity demands it. Yet it is equally important to prove to men the continuation in this life of a pre-natal life, so that they may comprehend — ‘Here upon this earth I have to be a continuation of what I was between death and my present birth. I have to continue a spiritual life here on this plane.’ This indeed is not likely to please egoism so much; but it is something that must of necessity again imbue our civilisation, so that humanity can be liberated from its anti-social instincts. Try to imagine what it will mean when we can look upon a human countenance and say: ‘That is not of this world. The spiritual world has been at work upon it between the last death and this birth.’ For a time will come when we shall see within the material the imprint of the spiritual work between death and re-birth. It will indeed be a very different kind of culture which will guide humanity then; and it will bring in its train very different convictions and tendencies of thought, which will not permit the contemplation of the Cosmos as a vast machine set in motion by the mutual attraction between the stars — apart from the fact that this abstraction has already reached its zenith. Abstraction is deeply rooted in our ordinary conception of the planetary system, and it produces today some very strange results. For example, a great deal of popular literature is permeated with glorification of an idea which originates from Einstein. This idea is said to have shaken the theory of gravitation. Imagine that, far away from all celestial

bodies — so that an interference by a field of gravity may be obviated — there is a box. Inside it is a man who holds a stone in one hand, and some down in the other. He lets both out of the box and see — they begin to fall — and fall until they reach the ground. Yes, says Einstein, men will no doubt say that the stone and the down both fall to the ground. But it *need* not be so; for up above a rope may be fastened and by some means or other the box is drawn up. The stone and the down — owing to the absence of any celestial body — do not fall, but *remain where they are*. When the bottom of the box reaches them, it takes them up with it.

This kind of discussion concerning an extreme abstraction, can be found today in the modern theory of relativity which Albert Einstein has propounded. Just think how far humanity has deviated from actuality! We can talk of relativity — well and good, but just imagine what would happen were this picture taken in earnest! A box, some inconceivable distance away from any celestial body that might attract (by gravitation) the stone and the down; and inside this box a man (air is only found of course in the neighbourhood of heavenly bodies, but the man is quite happy and content; as for his stone and his down, they of course need no air!), and now the box is suspended from outside and is then lifted up!

All this is a further development of the theory of Newton who postulated that ‘push’ or impetus which is imparted to a globe in the direction of a tangent, so that it is able with centrifugal force to escape the centripetal force. Such things as these actually form the contents of scientific discussions today, and are considered great achievements, whereas they are nothing more than a testimony to the fact that we have arrived at the most extreme abstraction, and that materialism has produced a state of complete ignorance in humanity as to what matter really is, and caused man to live in a series of mental pictures far removed from all reality.

But, my dear friends, these things are not in the least observed today, and we find our newspapers proclaiming that a new discovery has been made: the theory of gravitation has been replaced by the theory of inertia. The stone and down are not attracted; they remain in their original place — perhaps only because we can manage to imagine such a thing — while the box is raised! One can in truth say that so much nonsense masquerades as genius today that it becomes difficult to distinguish the one from the other. Can we wonder that in these times when in many other departments of thought too as well as that just described, men's ideas have grown quite crooked — can we wonder that we have at last been brought to the conditions of the last five or six years! These are things of which we need again and again to be reminded.

I have had to recall them to you today, and to-morrow I will add something further concerning the structure of the Universe.

LECTURE NINE

The task underlying our present studies is, in the widest sense, to try to understand the Universe through the relations existing between it and Man. I am far from wishing to convey the idea to those who have had certain glimpses into the Universe during the foregoing lectures that the truth of these matters can be found in any quick and easy way such as one hears of in ordinary Astronomy when it tells of the celestial motions. I would, however, like the friends who have come to the General Meeting not merely to hear something that comes right in the middle of a consecutive series, but in these few lectures held during the General Meeting, also to have a self-contained picture. I will therefore continue our studies of yesterday, giving indications of how the conception of the nature of Man leads to the conception of the Universe, its being and its movements. Of course, this subject is so vast that it is impossible to exhaust it for the friends who are now present. It will be continued later. For the benefit of those here for the first time to-night, I should like to put before them at any rate a few of the salient features of the subject embodied in previous lectures.

From other lectures you all know of the relation existing in human life between waking and sleeping. You know that in the abstract the relation is something like this: In the waking condition, the physical, etheric and astral bodies, together with the Ego-being, are in a certain inner connection; whereas during sleep, we have on the one side, the physical and etheric bodies united, and on the other — separated from them at any rate in comparison with the waking state — we have the astral body and the Ego. This, as you know, is merely an abstract assertion, for I have often emphasised that as regards all that belongs to the limb-nature — which is continued into the inner organisation, and is also the real bearer of metabolism — all this part of man, connected as it is at the same time with the human will, is really in a perpetual state of sleep. We must be absolutely clear that this state of sleep continues in regard to our inner organism, when we ourselves are awake. We can therefore say that the ‘Limb-man’ as carrier of the ‘Will-man’, is in a permanent state of sleep. The Circulation or ‘Rhythmic-man’, which may be described as in the middle between the Head-organisation and the Limb-man (the latter extending into the interior of man) persists in a continuous dream state. This is at the same time the outer instrument for our world of feeling. The world of feeling is rooted wholly within man's rhythmic organisation and while the metabolic man, together with its outward extension — the limbs — is the vehicle of the will, the rhythmic man is the vehicle of the life of feeling, and is related to our consciousness in the same way as our dream state to our waking life. Between waking and falling asleep, we are only really awake in our life of ideation and thought.

In this way we have set before us the fact that man, in his life between birth and death, is in an intermittent waking state in respect to his life of thought, in a dream state regarding his emotions and feelings, of which the rhythmic man is the vehicle; and he is in a state of continuous sleep as regards his limbs and metabolic system. We must realise at this point that really to comprehend human nature, it is necessary to fix our attention upon the fact of the extension of the limb-nature into the interior of man. All the processes that are ultimately connected with the abdominal region, everything connected with assimilation, digestion, as also with the secretion of milk in females, and so forth, all these processes are a continuation of the limb nature, directed inwards. So that in speaking of the will-nature or metabolic-nature, we do not mean only the outer limbs, but the continuation inwards too of this limb activity. In respect to all this, intimately connected as it is with the will-nature, man is continuously asleep.

This complicates the abstract idea we gain in the first Place of the departure of the Ego and astral body; and it also necessitates a corresponding comprehension of another important fact.

When the materialistic physiologist of today speaks of the will, saying for instance, that it manifests in the movement of the limbs, he has in mind that some kind of telephonic signal is sent from the central organ, the brain, proceeds through the so-called motor-nerves, and thus moves the right leg, for instance. This however is quite unproven — in fact, a quite erroneous hypothesis! For spiritual observation shows the following: If a man's right leg is raised or moved by the will, a direct influence of the Ego-being of man takes place, acting upon that limb, so that it is really raised by the Ego-being itself; only, the process takes place in a state like that of sleep. Consciousness knows nothing of it. The nerve merely informs us that we *have* a limb, it tells us of the presence of such a limb. This nerve as such has no part in the activity of the Ego upon that limb. A direct correspondence

exists between the limb and the will, which latter is associated in man with the Ego-being, and in the animal with the astral body. All that Physiology has to say in respect, for instance, of the speed of transmission of the so-called will, needs to be revised; it should be impressed upon us that here we have to do rather with the velocity of transmission in respect of the *perception* of that particular limb. Naturally anyone initiated into modern physiology can challenge this assertion in a dozen ways. I am well acquainted with these objections. But we have to try to rise a really logical thought process in this matter, and we shall find that what I say here corresponds with actual facts of observation, while what is said in physiological textbooks does not.

Sometimes indeed these things are so obvious as to be evident to all. Thus at a meeting of scientists in Italy — I think it was in the 80's of the last century — a most interesting discussion took place concerning the contradictions which came to light between the usual theory of the motor-nerves and the movement of a limb. As however the tendency to take notice of the *spiritual* aspect of things is absent in the physiology of today, even during a discussion such as this little was arrived at, except that contradictions existed in the hypothetical explanation of a certain fact. It would be extremely interesting if our learned friends, and there are such among us, were to investigate and test the physiological and biological literature of the last 40 years. They would make extremely interesting discoveries, were they to take up these subjects. They would find facts everywhere, which merely need handling in the proper way to confirm the findings of Spiritual Science. It would form one of the most interesting problems of the Institutes of Scientific Research which ought now to be erected, to proceed in the following way: International literature on the subject should first be carefully studied. We must take the international literature, for in English, and particularly in American literature, most interesting facts are substantiated, although these investigators do not know what to make of them. If you look into the discovered facts and substantiate them, there is but one step more needed in the sequence of investigation — given the right kind of vision in response to which the thing will, as it were, come out and show itself-and magnificent results would be arrived at today. Once we have advanced sufficiently to possess such an Institute, furnished with adequate apparatus and the necessary material, the facts will be found all around us, *waiting* as it were. Today people fail to notice the universal urge towards an Institute such as I have in mind, for the series of tests and experiments commenced are always discontinued just at the most critical moments, simply because people are ignorant of the ultimate direction of such experiments. Really important foundations would be laid by such an Institute, foundations for practical work. People do not dream at the present time of the technique that would result if these things were actually done, first as experiments and then building up from them further. It is only the possibility of putting it into practical effect that is lacking.

This is only by the way. To return to our subject. We have to do with a portion of man which sleeps even while he is awake. I now wish to bring to your notice a fact which has played an important part in all the older conceptions of the Universe. I refer to the assertion that the starting-point of the lower limbs is under the rulership of the *Moon*, while the region of the larynx, which we may consider as the meeting-point of the higher limbs, is associated with *Mars*. The man of today who is deeply involved in the modern conception of the Macrocosm, cannot of course make anything of such assertions; and the nonsense which hazy mystics and theosophists of today say or write about these things should not be awarded any special value, for these facts lie far deeper than, for instance, the repeated statements of materialistic theosophy that we have first coarse physical matter, and then other rather 'finer', then the astral still 'finer' and so forth. Those and similar things that pass for theosophy are in reality no spiritual teaching at all, but a spiritual untruth, for they are nothing more than a perpetuation of materialism.

Statements, however, that have come down to us as remnants of the ancient wisdom, have power to lead us to a state of real veneration and deep humility before that ancient knowledge of man, as soon as we begin to understand its meaning. These indications of an ancient wisdom persisted, not only till far into the Middle Ages, but even into the eighteenth century (where they may be found in the literature of the period), and perhaps into the nineteenth century, though here they have become merely copies, so to speak, and are no longer the direct result of an original primeval consciousness. And when these things are found introduced into quite modern literature, then they are still more certain to be copies. Up to the earlier part of the eighteenth century, however, we can still find traces of a certain consciousness of these things, and here again an association was thought of as between the nature of the Moon and this region of the human organism.

What I have just said — that man in relation to his will-metabolic nature is in a constant state of sleep — is

most forcibly expressed in the lower limbs. In other words, through the metamorphosis which the arms and hands have undergone, man wrests from unconsciousness that which is really the sleep-nature of the limb-man. If to some degree we sharpen our sensitiveness for these things, we shall perceive what a really remarkable difference exists between the movement of a *leg* and the movement of an arm. The movements of the arms are free, and in a sense follow the feelings. The movement of the legs is not as free — I mean in respect to the laws by which we produce their movements. This, of course, is something which is not always noticed, nor sufficiently appreciated, as exemplified by the fact that the greater portion of the public attending our performances of Eurythmy are merely passive observers, and fail to notice that the leg movements are less articulated and the movements of the arms and hands more so. The reason for this is that, to understand the movements of the arms, a certain co-operation of the soul on the part of the observer is necessary. In our cinema age, people do, not want to give this co-operation. While watching the movements of a dance where only the legs are in movement, and the arms at most are subject to arbitrary movements, there is little need either to think or feel in union with the dancer. This is by the way.

As we have seen, the most intensely unconscious process is in connection with the movements of the lower limbs. There, man is in a sense, fast asleep. How the will works into the legs or into the abdominal region, is entirely missed by man, owing to this state of sleep. In respect to this process, man's own nature sends back to him what is a reflection only of the process. Of course we follow the movement of our legs, but this observation does not make us conscious of the processes taking place in the nervous system as the will acts upon it; only the *reflection* of this becomes manifest to us. The nature of our lower man turns one side away, as it were, and only the other side is turned towards us. It is exactly the same with the Moon. She revolves round the Earth, and is altogether a most courteous lady, who never turns her back upon us, but shows us always the same side. She does not show us first one side, and then the other, while proceeding along her journey round the Earth. Nobody has ever seen her back. On account of this we never receive anything from the Moon which may be termed her own, but always a reflected light. In this fact we have an absolute inner parallel between the Moon-nature and the whole inner being of man. As we look up to the Moon, we understand her only as regards her outer formal side, but we should try to feel her inner relationship with the lower physical organisation of man. The deeper we go into these matters, the more we find this to hold good. It was the simple, instinctive observations of the Ancients which enabled them to realise these inner relations between human nature and the celestial bodies ...

Now let us take the other fact — that the arms, in their connection with the upper portion of the middle or rhythmic man, come awake in a sense in man; the movements of the arms can be taken as equivalent at least to the dream-state. We feel that the activity of the arms is related in a much nearer sense to human consciousness than is the activity of the lower limbs. Hence we find that a man who has elementary feelings, generally accompanies his speech, which is in close relation to the middle man, with a gesture of the arms, by way of emphasis or as a help in explaining his meaning. Speech is closely related to the upper part of the rhythmic-man. I do not suppose there are many speakers who use movements of the legs as a help for speech, or many audiences who would consider such movements attractive!

So if we feel in the right way this necessity or tendency in man's nature, we can also feel the real relationship between the hands and arms, which belong to the upper portion of the limb-man, and the middle-man or *rhythmic-man*, who has as his spiritual counterpart, the feeling nature. Quite naturally we try to support our speech, which is often in danger of becoming too abstract, by gestures of our arms and hands. We endeavour to project our emotional nature into our speech.

Today, in many circles — I will not name them — it is considered a sign of intellectual clarity to abstain as much as possible from using gesture in speech. We may however, look at the matter from another standpoint and say: If a person acquires the habit of putting his hands in his trouser pockets while speaking, it may not only mark him as a man of linguistic ability, but also perhaps as being somewhat blasé. That is another aspect of the matter. I am not speaking in favour of either of these points of view, but you will see how the nature of the arms clearly indicates their connection not only with the metabolic limb man, but also with the middle, the rhythmic or circulation man. This was understood and felt by the Ancients when they connected the combination of speech and arm-movement with the sphere of Mars. This planet is not so intimately connected with the Earth as is the Moon, nor is that which underlies the foundation of speech and the arm-organisation so intimately connected with the earthly man as is that which underlies the abdominal and leg-organisation. In a certain sense we can say:

what in its activity corresponds to the lower limbs, works very strongly upon the unconscious man. What corresponds to the arms and hands, however, works very powerfully upon the semiconscious man. It is indeed a fact that no one with wholly unskilled hands, no one wholly unable to perform any dexterous movements with the fingers, can be a very subtle thinker. He would in a sense seek a coarse thought-mesh rather than fine links of thought. If he has coarse, clumsy hands, he is much more qualified for materialism than one whose hand movements are more adroit. This has nothing to do with having an abstract conception of the Universe, but with the true inclination to a spiritual view of the Universe, which always demands to be comprehended in finely-meshed thoughts.

All these matters are taken fully into consideration in a comprehensive educational science. You would probably be very pleased if you came to our Waldorf School and visited the classroom where, from ten o'clock, instruction is given in handicrafts. You would see the boys as well as the girls industriously absorbed in knitting or crochet. These things are the outcome of the whole spirit of the Waldorf School, for it is not a question of writing sundry abstract programmes, but of taking in earnest that for the whole training of human knowledge, one should as a teacher know the great difference it makes to the thinking whether I understand how to move my fingers dexterously, whether I am able in ordinary circumstances to cross the middle finger over the first, like a caduceus, or not. The movements of our fingers are to a great extent the teachers of the elasticity of our thinking. These things must be followed with understanding and discernment. It is comparatively easy to acquire facility in crossing the middle finger over the first with elasticity, making a serpent and the caduceus, but it is not so easy to do the same with the second and third toes. In this we see what great distinctions there are in the whole organisation of man. It is very important to bear this in mind, for the construction of the foot is intimately connected with our whole human *earthly* nature. By the organisation of our hands we raise ourselves above the earthly nature. We raise ourselves to the *super-earthly*. This was felt by the ancient wisdom, for it said that the lower man belonged to the Moon, but that the part of man which raised itself above the earthly nature belonged to Mars. Primeval Wisdom felt the organisation in the whole Universe in the same way as we feel the organisation there is in man. Materialism, however, has brought it about that we do not understand man any more. Again and again I must emphasise that the tragedy of materialism is that it turns its attention to matter, and all the time understands nothing at all of matter but simply loses connection with material existence. For this reason materialism can only cause social harm; for the socialistic materialists, the Marxists, are, as regards reality, just talkers. This they have learnt from the middle classes which have indulged in materialistic chatter for centuries; but *they* have not applied it to the social institution, and have remained satisfied with half-truths. A spiritual philosophy of life will once more reveal the nature of man, not in the abstract, but as possessing a concrete soul and spirit, which can work into each individual member of the human organisation.

One cannot advance in these things without constantly turning to the other side of life; for this development which our organisation manifests is two-fold, in so far as the upper man is a metamorphosis of the lower man from the last Earth-life. There, is a point of time between death and rebirth when a complete reversal takes place, when the inner is turned to the outer, when what is presented as the connection between the organisation of the liver and that of the spleen is changed in the whole structure of its forces into, what becomes our hearing organisation when we are reborn. The whole of the lower man appears transformed. We have today in our lower man a certain relationship between the spleen and the liver. They slide into one another as it were. What is now the spleen slips right through the liver, and comes out, in a certain respect, on the other side, appearing again in the hearing organisation. So too with the other organs. People say that proofs should be found for repeated Earth-lives. Well, the methods by which such proofs can be found have first to be created. Anyone who is able to observe the human head in the right way, possessing a sense for such observation, comes to a way of understanding the transformation of the lower man into the human head; but he cannot understand it without filling in the intermediate stages of the experiences between death and rebirth.

In this connection very remarkable things are experienced. It may perhaps astonish some of you when I say that an artist who has become well acquainted with our conception of the Universe, said: "All that Anthroposophy says is very beautiful, but there is no proof. De Rochas, for instance, has given proofs, for he has shown how in certain conditions of hypnosis, reminiscences of former earth-lives may arise." It seemed to be very remarkable that an artist of all people should have said such a thing. I might have assured him that it is as though I were to say to him: "My dear friend, your pictures tell me nothing; show me first the original of them, then I will believe that they are good", or something of the kind. That of course, would be nonsense. As soon as

he leaves his own domain, however, he has no power to understand how out of what he has before him, out of the true form of the human head, one can arrive at what is expressed in this human head. The picture must speak through itself, not through the mere likeness to the original. The human head speaks for itself. It corresponds to reality. It is the transformed lower man and points us back to the former Earth-life. One must however first provide what will make it possible to understand the reality aright.

The physical is thus seen to be a direct expression of the Spiritual. It is possible to understand the physical man as an expression of the Spiritual which is experienced between death and re-birth. The physical world explains itself and brings the spiritual world into this explanation. But we must first know this, saying to ourselves: The phenomena of nature are only a half, as long as we have them as mere sense-phenomena. We must first know this. Then we can find the bridge and understand the event that gave Earth its true meaning—the event of Golgotha: then we can understand how a purely spiritual event can at the same time enter right into physical life. If a man is not prepared to see the relation of the physical to the spiritual aright, he will never be able to grasp the fact that the Event of Golgotha is both a spiritual Event and an Event of the physical plane. When in the eighth General Ecumenical Council, in the year 869, the Spirit was eliminated, it was made impossible to understand the Event of Golgotha. The interesting point is that while the Western Churches started from Christianity, they took great care that the essence of Christianity should not be understood. For the nature and essence of Christianity must be grasped by the *Spirit*. The Western creeds set themselves against the Spirit, and one of the principal reasons why Anthroposophy is prohibited from the Roman Catholic side is that in Anthroposophy we have to relinquish the erroneous statement that ‘man consists of soul and body’ and return to the truth that ‘man consists of body, soul *and Spirit*’. The prohibition indicates the interest taken on that side to prevent man from coming to the knowledge of the Spirit, and so arriving at the true significance of the Event of Golgotha. Thus the whole knowledge which, as we see, throws so much light on the understanding of Man, has been entirely lost.

How then is an educational science to be constructed for the humanity of today, when the vision of the true nature of Man has been lost? To be an educationalist means to solve those sublime riddles which the child propounds to us, as it gradually brings forth that which has been laid into it between death and re-birth. The creeds however, reckon only with the post-mortem life — in order to humour human egotism; they have not reckoned that human life on Earth should be regarded as a continuation of the heavenly life. To demand of man that he should prove himself worthy of the claim made on him before he entered earthly life through birth, requires a certain selflessness of view, whereas the creeds have chiefly reckoned with egotism up to the present. Here, in Anthroposophy, whatever is of the nature of creed or faith gains, as it were, a moral colouring. Here purely theoretical knowledge is made to flow out into the higher ethical view and conception of the Universe. This should be understood by the friends of Anthroposophy. They should understand that in a sense, a moral inclination to spirituality is the preliminary condition for a knowledge of spiritual beings. In our present difficult time, it is specially necessary that attention should be paid to this moral side of the nature of the conception of the Universe. If we glance at what is taking place in the external world, we must say that empty talk, which is the sister of falsehood, is what has resulted from materialism, even for the ethical experience of humanity. This would become stronger and stronger if humanity were not helped by knowledge which leads to the Spirit, and which must be united with a raising of man's inner moral sense. We ought to acquire a realisation of how a spiritual-scientific conception of the world stands to the tasks and the whole dignity of Man and we should take this feeling as a starting point of our knowledge. This is only too necessary to mankind today, and one would like to find new phrases, new forms of expression in which to describe this aspect of the task of Spiritual Science!

LECTURE TEN

To understand the world without understanding Man is impossible. That is the net result to be derived from our studies here. And for that very reason I wish today to contribute a little more to the understanding of Man. Let us then start from the disparity between the organisation of the head and that of the limb man — a subject on which we have already frequently spoken here.

First of all I would remind you that the head-organisation, as it meets us in the life between birth and death, is the outcome of all those formative processes which have been undergone from the last death to the earthly embodiment of this present life. From this we must conclude that everything connected with the head-organisation does not, in its conformity to law, follow those rules and forces to which we are adapted as *earthly* beings. Through the bodily organisation which we receive in this particular incarnation we are adapted to Earth-life. We have spoken a little of how this is manifested. We complete one revolution, of taking nourishment and digesting it, every 24 hours. Thereby we are adjusted with respect to the cycle of nourishment and digestion to the movement of the Earth in 24 hours. Something is accomplished in us, as it were, resembling what takes place in the processes of the Earth within the Universe. Our head, however, we virtually bring with us in its organisation at birth; therefore the head is primarily adjusted not to earthly relationships, but to such as are really from *beyond the Earth*. The head therefore is in a peculiar position in relation to the rest of man. A comparison may serve to make clear the position of man's head during the early epochs of his Earth-life.

Suppose we were on board a ship. The ship makes various movements in different directions. If we have a compass, we see that the set of the magnetic needle does not follow the movement of the ship, but points always to the magnetic North Pole. It is independent of the movements of the ship. The ship's movements can indeed be themselves regulated by the constant position of the magnetic needle. In a sense it is the same with the human head. Man does many things in the physical world with the rest of his organism: the head in a sense has no part in what he does in earthly life. It is always organised with its inborn forces in accordance with the extra-earthly. It is a very important fact that we have in the human head something organised in this way for the extra-earthly. Nevertheless there is always an interaction between the organisation of the head and that of the rest of man. This interaction is only gradually brought to completion in the course of the time that passes between birth and death. The head, as we receive it from the super-earthly worlds at birth, is organised primarily for the life of ideation. It is in a sense so constructed that the life of ideas can use it as an instrument. If it were to develop only on the basis of the forces which it receives on leaving the super-earthly worlds, it would develop solely as an organ of ideation or thought; our connection with the world through the head-organisation would in course of time be entirely lost. We should, as it were, so pass through earthly life with our consciousness as to develop by means of the head ideas only — that is, no more than pictures of earthly life. We should become more and more conscious of extending beyond our organisation which is connected with the Earth-being, of extending beyond it with our head; as though through our head we were beings who were strange to the Earth and developed only pictures of all that is connected with earthly life.

This is not so, and precisely for the reason that the rest of the organism sends its forces into the head. If we enquire into the quality of these forces, which from childhood onwards are more and more directed from the rest of the organism into the head, if we wish to describe them, we must look for them particularly in the forces of the Will. The rest of the organism is continually impregnating the Thought-nature of the head with Will-forces. Thus we can say, in effect, speaking diagrammatically, that we acquire the head as the bearer of ideas, as the result of the foregoing incarnation; while the Will-forces are sent into it from the rest of the organism. What has just been said takes place not only in the life of soul, but shows its effects in the bodily life also.

As head-man we are born in this earthly world as beings of thought and ideation, and the forces of ideation are at first very powerful. They ray out from the head into the rest of the organism, and it is they which during the first seven years of life enable the forces which manifest in the second dentition to work out of the rest of our organism, these same forces consolidate in us also the life of Thought, which is not consolidated until we acquire the second teeth. They are the actual forces which produce the teeth; so that when we have the teeth, these forces are set free, and can assert themselves in the life of ideas. They can then form ideas, and in a corresponding way build the power of memory. Clearly outlined ideas can begin to find a place in our thought. As long however as

we are employing the forces in the formation of the teeth, they cannot show themselves as true consolidating forces in the life of ideas.

As we grow beyond the seventh or eighth year, the Will which is essentially bound up with the lower man and not with the head, begins to manifest, and now comes the time when it would, as it were, shoot its forces up into the head. This cannot however come about so easily; for our head, which is organised for the extra-earthly, would not be able to receive these strong forces which the metabolic system, as vehicle of the Will, wishes to send forth to it. These forces must first be stemmed; they must make a halt until sufficiently filtered, toned down, given more of a 'soul' character, to make their influence felt in the head. This halt is made at the end of the second septennial period. When the Will-forces are arrested in the organisation of the *larynx* — for that is the way they manifest; in the male organisation they suddenly break forth in the change of voice. In the female organisation they manifest differently. These are the Will-forces coming to a standstill, as it were, before they reach the head. Thus we may say that at the end of our second septennial period, the Will-forces are arrested in the speech organisation. At that time they are sufficiently filtered and "souled" to make their influence felt in the head-organisation. Having reached the age of puberty, and the change of voice which runs parallel with it, we have reached the point when the faculty of thought and ideation can work together with the Will in the head.

Here we have an example of how with our Spiritual Science we can point concretely to events. The abstract philosophies which make their influence felt in modern times — Schopenhauer's *The World as Will and Idea* for instance — all remain in the abstract. Schopenhauer took pains to describe the world in its ideal character on the one hand, and its will character on the other; but he remains, as it were, in the mere abstract. So also does Eduard von Hartmann. They all remain in the abstract. To be concrete is to observe how, through these two halts-at the first and second septennial periods-in quite definite and distinct ways Idea and Will meet in the cosmic system of the human head. The essential thing is that we can point to that which is of the soul and spirit and show how it manifests and reveals itself in the outer physical world. So too, we see the forces of the head, which are sent forth to the body and manifest therein in the forming of the teeth, work together with the forces of the body sent to the head, which prepare themselves, by what they undergo in the formation of speech, to become true soul-will. In the formation of speech they are arrested and held back and only then do they press forward into the head.

Thus we must understand Man in his process of formation, and look at what actually goes on with him. I have said that the human head is no more adjusted to the earthly relations of man than is the magnetic needle to the movements of the ship. The needle is independent of them, and the human head is in the same way independent of the earthly connection.

Here we have something which gradually leads to the *physiological concept of freedom*. Here we have the physiology of what I have set forth in my *Philosophy of Spiritual Activity*, namely, that one can only understand freedom by grasping it in sense-free thinking — that is to say, in the processes taking place in man when he directs pure thinking by his Will and orientates it in accordance with certain defined directions.

We see how man comes step by step to study rightly the mutual relationship of the soul-and-spirit and the physical-corporeal, and how the process of speech-formation can be really understood by conceiving of it as a product of two sources from which the human being is supplied — the sources which are in the head-man on the one hand and in the limb-man on the other.

We can now experience more fully how impossible it is to say that some kind of communication of the will is carried from the brain through the motor nerves. The brain only derives its full power of volition from the rest of the organism. Of course you are not to imagine this as if you could draw it in a diagram, for the process of speech-formation not only was prepared earlier, but is something which goes through the whole of life and only appears in its most characteristic feature in the special time of transition. Thus we must understand clearly how man is adapted to an *earthly* as well as an *extra-earthly life*.

He is so adapted to earthly life that certain forces which the animal brings to their conclusion, man does not bring to a conclusion in his purely natural organisation. The animal is, as it were, born ready-equipped for all its functions. Man has to be taught to acquire these functions for himself. What thus takes place in man is really only an outer expression of something that takes place in him organically. If we study the metabolism of the animal correctly, we find that it goes further than that of man. The metabolism of man must be held back at an

earlier halting place. What in the animal is carried to a certain stage — must in man be arrested at an earlier stage. Superficially expressed, man does not carry digestion so far as the animal; the digestive process ceases earlier. He retains, through the arrested digestion, forces which become the vehicle for what he sends to the head through the Will.

As you see, human nature is complicated; and if one does not wish to take the trouble really to study its complications — why then, one arrives at a science such as we have in the external science of today! One does not arrive at the real nature of Man. The essential nature of Man will only be revealed when Spiritual Science is allowed to illuminate natural science. If however, it is with Man as I have described, and the connection between Man and the extra-human world outside him is as we have described it in these studies, then you will see that the extra-human world can only exist for Man if it has a certain resemblance to him, to his organisation. We have seen that as limb-men we are adapted to earthly relationships, but that through the head-organisation we have removed ourselves as it were out of earthly relations, like the ship's compass on the ship. Now something of this kind must take Place also in the extra-human world. There must, for instance, be adaptation to the human limb-nature. Something must lift itself out beyond, there must be something that does not belong.

How does modern natural science study Man? It studies him as though he had no head. Of course it studies the head too, but how? As a kind of appendage to the rest of his organism. What natural science produces for the comprehension of human nature is only calculated to explain the part outside the head, not the human head itself; that must be explained from the spiritual world.

I might have used the following comparison. I might have said-I have already spoken of it recently-that the human head sits upon the rest of the human organism as people sit in a railway carriage. They take no personal part in the movement. They sit still and allow the carriage to move. In the same way, the human head sits at ease. It regards the rest of the organism which is adapted to the outer world, as its coach, and allows itself to be carried. It is itself organised for a very different world. And this is how it must be in the outer world also. A natural history of man, such as we have today really speaks of a headless man, it does not understand his true nature at all. And an astronomy constructed on the same principles would not correspond to the whole extra-earthly world, but only to a certain part of it; the other part that is withdrawn from this main part, is not considered at all. As a matter of fact the trend of natural science for the last three or four centuries has been such that it has developed the movements of the Universe, *disregarding* a certain content of this Universe, just as the rest of natural science disregards the human head. Therefore astronomy has derived forms of movements such as 'The Earth revolves in an elliptical path round the Sun', which are as little correct for the Universe as the natural science of today is for the whole being of Man. They do not correspond to the actual facts. Hence we must so often point out that the Copernican view must be fructified by Spiritual Science. Many mystics, and theosophists too, are fond of preaching: 'The world of senses around us is Maya.' But they do not draw the ultimate logical conclusion, otherwise they would have to say: 'Even the world of the Copernican system, this movement of the Earth around the Sun is maya, is an illusion, and must be revised.' For we must realise that within it is something which can no more be recognised on the basis of the hypothesis employed by Copernicus, Galileo — or even Kepler — than the whole nature of Man can be understood from the principles of modern science.

Now when we come to treat of a subject like this, we must at the same time point to something which has already taken place in human evolution. If we call to mind what we have often said — that in olden times there was a kind of primeval wisdom of which man had but a dreamy atavistic consciousness, but which in its content far surpassed what we have since acquired — if we remember all this, we shall not find it difficult to bear in mind also that the idea of the world which was held in olden times was quite different from any cosmology possible today. For what was the cosmology of our forefathers — that is, of ourselves in our former Earth-lives? What was it?

The cosmology that man had in those times consisted far more than it does now in what man brought into the world at physical birth. We may still find in children, if we understand how to observe them aright, something like a picture of the world in which man lived before descending to physical life. In later life however, and indeed very early in later life, this picture vanishes. In olden times this picture endured. What existed in earlier epochs of spiritual evolution as an astronomical description of the solar or planetary system and its relation to man, was something man felt within him, although he experienced it in a dream-like state. Today we look back upon those times of our ancestors with a certain arrogance, yet they were times when we really knew

there was something within ourselves that had connection with Mars, Mercury, and so on. That was part of the inner consciousness of the human being. It disappeared however as man developed further. In primeval times he saw only the outer constellation, but felt within himself an inner constellation, an *inner cosmic system*. Not only did he perceive a cosmic system outside him; but in his own head, which today is merely the vehicle of the — shall I say — indefinite life of ideas, there within, shone the Sun, with the planets circling round. In his head man carried this cosmic picture, and it had an inner force which worked upon the rest of the organism and influenced what he received at birth, or rather at conception, from the Earth-forces; that too was influenced, so that the rest of man was also drawn into this adaptation to the planetary forces.

And now we can carry the thought a little further. Man is born into this world, and as a heritage he receives — let us say — in the first place, the power to acquire his teeth, the milk-teeth. These are completed approximately in the circle of the first year. The second teeth need seven times as long; they are brought forth by the human organism itself. This points in the deepest sense to the fact that a certain rhythm which we bring with us at birth and which relates to the yearly revolution is slowed down by seven times in our earthly life. By seven times is the yearly revolution slowed down, and this is expressed in the fact that man has introduced into his division of time the relation of one to seven — day and week. The week is seven times as long as the day. This is an expression of how something takes its course in man which goes seven times slower than what he brings into physical existence at birth. Man will not understand the actual processes in the human being until he is able to see quite clearly and exactly how something within him which, as it were, was brought in from conditions outside the Earth, has to be slowed down by seven times during the earthly period.

The ancient Mystery teaching spoke much of these facts. If I were to express in our language what the old Mystery teachings — the ancient Hebrew Mystery teaching, for example — said from their atavistic knowledge of these matters, I should have to put it in this way. — The old Hebrew teachers explained to their pupils: Jehovah, who is the true Earth God, who added the Earth-organisation to that of Saturn, Sun and Moon — Jehovah has the tendency to slow down seven times what comes from the Moon-organisation. In relation to the course of the Earth something in the human being wants to go at accelerated speed. I might even say that the old Hebrew Mystery teacher said to his pupils: Lucifer runs seven times as fast as Jehovah. This points to two movements two currents in human nature. These two currents also exist in extra-earthly nature — only there they are present in a somewhat different form. The thought however, which we here approach, is one not very easy to understand. We can perhaps gain insight into it by starting from social relationships, and then coming back to the cosmic-tellurian relationships.

I have often spoken in public lectures of something I should like to express here. When we contemplate the misery of the present time, we find the peculiar fact that the whole intelligence of modern humanity has developed in a way that is quite estranged from reality. It is a peculiar fact that, in practical life, we find more inefficient people than efficient. This is patent, for instance, as I have shown, in the fact that in the nineteenth century there was much discussion concerning the effect of the gold-standard upon international economic relations. You can go through the Parliamentary reports of that century, and try to form an idea from them of what people then thought would be the result of mono-metalism, the gold-standard. They regarded it as something which would make free trade possible unhindered by imposition of duty. Throughout the united economic domains of the world this was predicted wherever the gold-standard was extolled. What has actually come about? The imposition of duty. Little by little the actual relations have developed in such a way that everywhere duties have been imposed. That is the actual outcome.

Judging superficially one might say: Well, those people must have been very stupid! But they were not at all stupid; among those who had pledged themselves to the promotion of free trade by the gold-standard, were very able and clever persons, but they had no sense of reality, they reckoned only according to logic. They could not dive into the true relationships, any more than can our modern scientists comprehend the organisation of the heart, liver, spleen and so on. They make abstract theories and hold on to them; although they are materialists they remain rooted in the abstract. That is why such an occurrence is possible as that related in the following anecdote, which is founded on fact and is really very illuminating.

In a certain Academy of science there was a physiologist, a learned man, who developed a theory as to the varying length of time particular birds can fast. He made out a beautiful schedule. He had large cages of birds placed in his corridor and he starved those birds to ascertain how long they could live without food. He

registered the times and obtained some lovely big numbers as a result. He elaborated these in a paper which he read at an Academical Meeting. Now in the same house there lived on the floor above another physiologist who did not apply the same methods. After the learned treatise had been read, he rose and said: 'I must unfortunately object that these figures are not correct, for I had such pity on the poor birds that I fed them in passing.' Now things do not always have to happen just like this! This is an anecdote. But it is founded on fact; and really much of the material underlying our exact science has been obtained in a like way. Someone in the background has 'fed the birds' instead of their having starved as long as the schedule showed. If one has a sense for reality, one cannot very well work with statistical methods of that kind; they do not hold out much promise. But this sense for reality is wholly lacking in modern humanity. Why is this so? It is due to a certain necessity of the evolution of humanity; and we can understand the matter as follows:

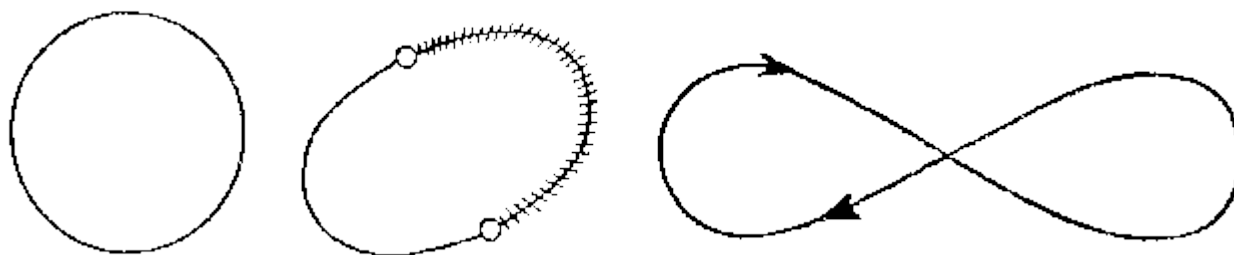
Picture it to yourselves in this way. The man of ancient times looked into this outer world. By means of all that he bore within him, he viewed the relationships and connections of the world outside. He formed also his theory of the stars from out of his own inner stellar system. He had 'a sense for reality' and he carried it in his senses. This sense for reality has disappeared in the course of man's evolution. It will have to be developed again, it will have to be developed to the same degree inwardly as it formerly was outwardly. We must really cultivate this sense for reality in our inner being by the training we receive in Spiritual Science; only then shall we be able to develop it in the world outside. If man were to keep straight on in the path in which he has been evolving with modern intellectuality, he would at length be quite unable to perceive what is going on around him, and then it could easily happen that while the cry is heard, 'Free Trade is coming!' in reality it will be Customs restrictions that are being established. This is continually happening in the various domains of so-called practical life. What happened then in a big thing happens today in small things everywhere. The 'practical' man predicts one thing, the opposite happens. It would be interesting to keep an account of what 'practical' men have predicted as 'certain to happen' during the last years of the war. Always the opposite came about, especially in the later years, precisely because there was no longer any sense for reality among the people. This sense however, can arise in no other way than by developing it first within. In future times no one will be considered a practical man or a thinker attuned to reality, who disdains to educate himself in his inner being through Spiritual Science, in a manner that cannot be done through the outer world today. We must carry into the world outside what we develop within. Hence the necessity for Spiritual Science; for people cannot arrive at the relation of the heart to the liver if they do not first acquire the method for it by means of a training in Spiritual Science. In earlier times people could say: the heart is related to the liver somewhat as the Sun to Mercury in the outer world; and man knew something of how this relationship of Sun to Mercury was drawn from the super-sensible world into the sense world. This is now no longer understood, nor can it ever be thoroughly understood if the foundation, the basic impulse for this comprehension, be not acquired from within. It is not through clairvoyance alone that man can make it his own. By clairvoyance the facts of Spiritual Science are investigated; but man acquires this sense when he enters with his whole thought and feeling into what has already been discovered by clairvoyant methods, and regulates his life accordingly. That is the essential point. What is of moment is *to study the conclusions of Spiritual Science*, not to satisfy a curiosity for clairvoyance. That must be emphasised again and again. For in the whole development of human culture, this application of the methods of Spiritual Science to outer life and to the knowledge of the great world, the world outside man, is of quite special importance.

When we consider what we thus have to look upon as the original head-organisation, when we consider it in the course of our life, we see how it gradually becomes permeated with all in our organisation that is adapted to the world outside. Thus we must learn to understand the world outside man from man's own organism, from the human limb-organisation; and there, only such things as I have already hinted at can help us. I have shown the contrast that exists between the waking and sleeping conditions of man. These are contrasting conditions, and when one condition is passing over into the other, that is to say, when we wake up and when we go to sleep, then we pass through a zero-point of our existence. The moment of awaking and the moment of falling asleep must have something to do with one another.

This indicates that if we try to turn the day-course of man into a geometrical figure, we can employ neither a circle nor an ellipse; for if we were to ascribe to the sleep condition one part of the ellipse, the conditions of awaking and falling asleep should fall apart; and this they cannot do. We shall see how even in outer appearance they present a similarity; they cannot fall apart. Thus we cannot draw the geometrical figure which is to correspond with man's daily round in a circular form nor in an elliptic form. We can only draw it as a looped

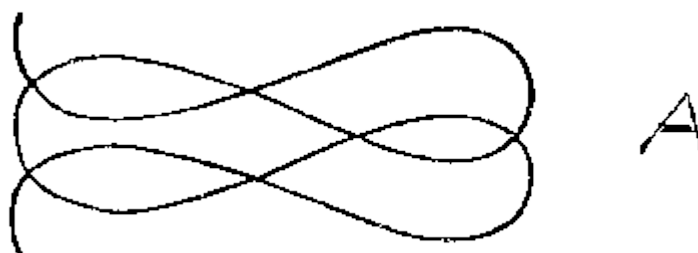
line, a lemniscate. When we say: Man falls asleep out of the waking condition into the sleep condition, then with the lemniscate it is possible to show him coming out of sleep again through the same condition; and we have a curve, a line which truly corresponds to the daily course of human life. There is no other line for the daily course of life than the lemniscate, for no other line would lead the awaking through the same point as the falling asleep.

There is more than this. If we give attention to human evolution in childhood especially, we have to say: we wake up virtually the same as we went to sleep. We wake up the same in respect of the principal alternating conditions of

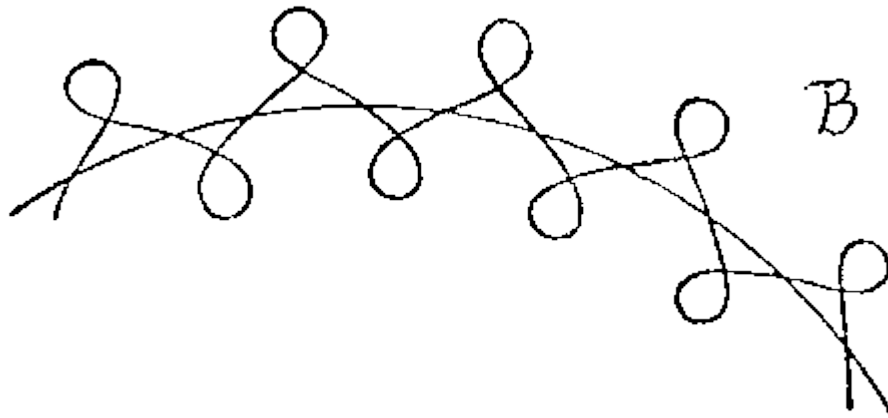


waking and sleeping. But if we rightly observe life, we cannot exclude the sleeping condition from human life as a whole. We instruct our children during the day. Out of all we bring to the child, much of it is not his at once, but becomes so only the next day, after the Ego and astral body have passed through the night-condition; only then does the child duly receive what we have given him by day. We must always have this in mind and regulate our teaching and education accordingly. Thus in regard to the alternating condition of day and night, we can say: we sleep, and on awaking come to the same place where we fell asleep; but in regard to human evolution, we shall have to say: we press forwards a little. We progress in another direction.

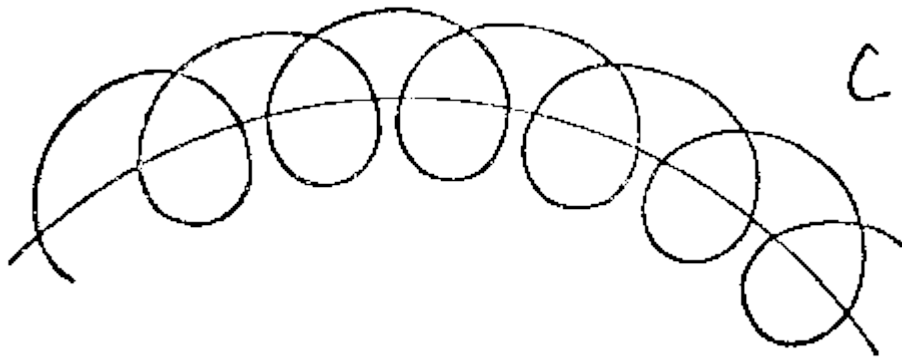
Hence we may not draw the line quite as a lemniscate; but in such a way that we come out a little further on, and so attain a *progressive* lemniscate. (A).



Thus when we observe the alternating conditions of waking and sleeping, and continue the evolution, we obtain a spiral. This spiral is ultimately connected with our evolution, and our evolution again is connected with the whole cosmic system. Therefore we must seek this same line as the basis of the movements of the Universe. If, instead of abstract geometry, man had applied concrete geometry to celestial space, the concrete, geometry that proceeds from a study of the whole man, he would have arrived at something different. For in the ancient wisdom one had this line (A). And one did not speak of Mars as moving along any other kind of line than this one. Gradually it was all forgotten. Man *calculated* instead of knowing. What was the result? It was a line which goes forward like this (B). But in that line one can get no further.



So man took this line and set circles upon it (C) and acquired the epicycloid theory.



The Ptolemaic theory is the last remnant of the old primeval wisdom. On its foundation Copernicus made a further simplification, and modern astronomy still speculates on that today — but in such a way that it much prefers to consider ellipses and circles than that inwardly curving line which presents a continuous spiral. Then people wonder that the observations do not agree with the calculations, and that fresh corrections have to be made continually.

Reflect *how* the whole theory of Relativity has been constructed on an error in Mercury's time of rotation. Only, the correction was attempted in a different way than would have been the case if one had gone back to Man's relation to the whole Cosmos. Of this more in the next lecture.

LECTURE ELEVEN

I drew attention yesterday to the fact that what is present in man points to something correspondingly present in the Cosmos outside him. What we have now to notice especially in man is the relation of the head to a world beyond the Earth — a world that lies outside the world upon which the rest of the human organism is dependent. The head points clearly to the world through which we passed between death and rebirth, its whole organisation being so modeled that it forms a distinct echo of our sojourn in the spiritual world. Now let us look for the corresponding phenomenon in the Cosmos.

We need only compare the behaviour of Saturn, who stands far out in the Universe, with that of the Earth, to notice a certain difference. Astronomy recognises this difference by saying that Saturn goes round the Sun in 30 years, the Earth in one year. We will not now stop to discuss whether these assertions are correct or whether they show a superficial view. We will only point to the fact that the observation which can be gained by following Saturn in cosmic space and comparing the rapidity of his progress with that of the Earth, brings us to the conclusion that according to the astronomical system of Copernicus and Kepler, Saturn needs 30 years and the Earth only one year, in which to go round the Sun. Looking at Jupiter, we assign to him a revolution lasting 19 years. Much shorter is that of Mars. And when we come to, the other planets, Venus and Mercury, we find that they have even shorter periods of rotation than the Earth. All these conclusions are obviously well thought out, worked out on the basis of observations made in one way or another.

I have pointed out that we only gain a clear insight into these things by comparing what takes place in the far distances of cosmic space with what goes on within the boundary of our skin, in our own organism. Reflect for a moment and you will find that what is called the period of rotation of the Earth round the Sun, corresponds to something in yourself. In the foregoing lecture we showed that in order to represent the daily series of events, we have to use a certain curve, a certain line that turns back upon itself. In a similar way must the curved line corresponding to the yearly motion of the Earth be imagined. It is quite immaterial whether man's view is that the movement of the Earth is at the same time a movement round the Sun or no; for what have we here? Let us think. We have our own daily cycle of life, which we will consider now, not in its correspondence to the Cosmos, but as it presents itself in man, so that we can also include those whose sleeping and waking do not correspond with the alternation of day and night — idlers as well as all those who do not live by rule! Let us consider this daily round of man on the basis already established, that is to say, representing it in thought as a line in which the points of sleeping and waking lie upon one another, as I have pointed out. There are many reasons, but one will suffice for an unprejudiced judgement to understand that we are bound to place the point of waking over that of falling asleep. Consider the remarkable fact that when we look back over our life, it appears to us as an unbroken stream. We do not feel compelled to regard life in such a way as to say: Today I have lived and have been conscious of my environment from the moment of waking; before that all was darkness; before that again, my falling asleep of yesterday was preceded by life, I lived again, back to the moment of waking; but then darkness again. You do not picture the stream of memory like this, you picture it so that the moment of awaking and the moment of falling asleep really unite in your conscious recollection. That is a plain fact. This fact can be expressed in that the curve representing the daily round in man comes out as a spiral, with the point of awaking always crossing the point of falling asleep. If the curve were an ellipse or a circle, then awaking and falling asleep would have to be separate, they could not possibly be joined. In this way alone therefore can we picture the daily round of man.

Now let us try to see exactly what this means in man himself. Your waking time runs from your awaking to your falling asleep. During that time you are a physical human being, and you are moreover a *complete* human being, possessing physical body, etheric body, astral body and Ego. Now consider your condition from falling asleep until awaking. Then you have only physical body and etheric body. You are physical man, but you are not man; you have only physical body and etheric body. Strictly speaking, such a thing should not be. Your physical body and etheric body become really an untruth, for a being so composed should be a plant. It is the remainder of the whole man, left behind when the Ego and astral body have gone away; and only by virtue of the fact that these will return before the physical and etheric bodies can actually reach the plant stage — it is only because of this that you do not die every night.

Now let us examine what is left lying on the bed. What happens with it? It suddenly becomes of the nature of the plant. Its life is comparable to what takes place on Earth from the moment when plants sprout in spring until the autumn, when they die down. The plant-nature springs up and puts forth leaf in man, so to say, from falling asleep to awaking. He is then like the Earth in summer; and when the Ego and astral body return and man awakes, he becomes like the Earth in winter. So that we may say that the time between awaking and falling *asleep* is our winter, and that between falling asleep and awaking is our summer. For the year of the Cosmos — in so far as the Earth is part of it — corresponds with man's day. The Earth wakes in winter and sleeps in summer. The summer is the Earth's sleeping time, the winter her waking time. Outer perception obviously gives a false analogy, presenting summer as the Earth's waking time and winter as her time of sleeping. The reverse is the case, for during sleep we resemble the blossoming, sprouting plant-life; like the Earth in summer. When our Ego and astral body re-enter our physical and etheric bodies, it is as though the summer sun withdrew from the plant-laden Earth and the winter sun began to work. Thus the whole year is at different times represented in any one part of the Earth's surface. The case of the Earth is different from that of the individual man, but only apparently so. In respect to the Earth, in whichever part of it we may dwell, a year's course corresponds to the daily course of the individual man. The course of a year in the Cosmos corresponds to a man's day.

Thus we have the direct fact that when we look up to the Cosmos, we have to say: A year — that is for the Cosmos sleeping and waking; and if our Earth is the head of the Cosmos, it expresses in winter the waking of the Cosmos, and in summer its sleeping. If we now consider the Cosmos, which as we see manifests waking and sleeping — for the plant-covering of the Earth is an outcome of cosmic working — we shall find that we have to think of it as a great organism. We must think of what takes place in its members as organically fitted into the whole Cosmos, just as what takes place in one of our own members is fitted into our organism. And here we come to the significance of the difference expressed by astronomy in the shorter periods of Venus' and Mercury's revolutions as compared with the longer periods of Mars, Jupiter and Saturn. When we consider the so-called outer planets, Saturn, Jupiter and Mars, then the Sun, Mercury, Venus and the Earth, we find this apparently long period of revolution in the case of the outer planets stretching beyond a year, thus beyond the mere waking time. Let us consider Saturn with his 30-year period, the apparent time of his revolution round the Sun; how can we express his 30 years in the language of the Cosmos according to which its daily revolution is a year? If a year is the daily revolution of the Cosmos, then the so-called period of Saturn's revolution is approximately 30 days, a cosmic month, a cosmic four weeks. Thus we may say that if we regard Saturn as the outermost planet (the other two, Uranus and Neptune, regarded today as of equal standing with Saturn, are really fugitives that have wandered in), then we must say that Saturn bounds our Cosmos; and, in his apparent slowness, in his limping behind the Earth, we behold the life of the Cosmos in 4 weeks or a month, as compared to the life it displays in the course of the year, which for the Cosmos is like a falling asleep and awaking.

From this it may be seen that Saturn, if his apparent path is regarded as the outermost limit of our planetary system, is inwardly related to it in a different way from, let us say Mercury; Mercury needing less than 100 days for his apparent revolution, moves quickly, he is active inwardly, he has a certain celerity; whereas Saturn moves slowly.

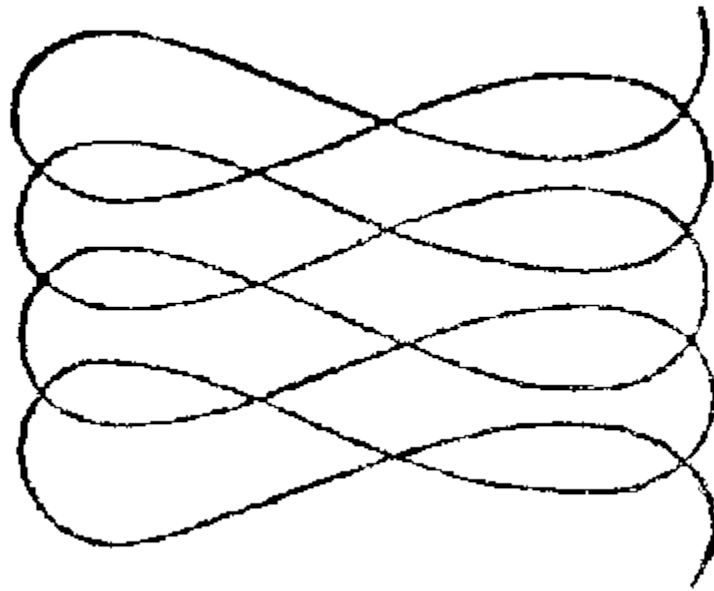
To what exactly does this correspond? In the movement of Saturn you have something comparatively slow, in that of Mercury something that is very much quicker, an inner activity of the cosmic organism, something that stirs the Cosmos inwardly. It is as if you had, let us say, a kind of living, mucilaginous organism, itself revolving, but having besides within it an organ which is revolving more quickly. Mercury separates itself from the movement of the whole by its quicker revolution. It is, as it were, an enclosed member; so too is the movement of Venus. Here we have something analogous to the relation of the head in man to the rest of his organism. The head separates itself off from the movements of the rest of the organism. Venus and Mercury emancipate themselves from the movement set by Saturn. They go their own way; they vibrate in the whole system. What does this signify? They have something extra as compared with the whole system; their more rapid movement shows this. What is the corresponding thing to, this extra in our head? Our head has something extra, namely its co-ordination to the super-sensible world; only, our head is at rest in our organism, just as we are at rest in a coach or a railway carriage, while it is moving. Venus and Mercury act differently; they do the exact opposite as regards their emancipation. Whereas our head is quiescent, like we are when we sit still in a railway carriage, Venus and Mercury emancipate themselves from the whole planetary system in the opposite way. It is as though we, sitting in the railway carriage, were impelled by something to move all the time much faster than the railway

train itself. This is due to the fact that Venus and Mercury, which show a much quicker apparent movement, are related on their part not to space alone, but to that to which our head is also related; only these relations take opposite courses — our head being brought to rest, Venus and Mercury on the other hand becoming more active. They are the two planets through which our planetary system has a relation to, the super-sensible world. They incorporate our planetary system into the Cosmos in a different way than do Jupiter and Saturn. Our planetary system is spiritualised through Venus and Mercury, more intimately adapted to the spiritual Powers than happens through Jupiter and Saturn.

Things that are real often appear quite differently when studied in accordance with true reality instead of in accordance with generally received opinion. Just as, when we judge externally, we call winter the sleeping time of the Earth, and summer her waking time, whereas it is the reverse; in the same way, judging externally, Saturn and Jupiter might be regarded as more spiritual than Venus and Mercury. This is not the case; for Venus and Mercury stand in more intimate relation to something behind the whole Cosmos than do Jupiter and Saturn. Thus we may say that in Venus and Mercury we have something which places us outwardly, as a member of the planetary system, in relation to a super-sensible world. Here, while we live, we are brought into connection with a super-sensible world through Venus and Mercury. We might say: When we are incorporated by birth into the physical world, we are carried into it by Saturn and Jupiter; while we live from birth to death, Venus and Mercury work within us and prepare us to carry our super-sensible part back again through death into the super-sensible world. In fact, Mercury and Venus have just as much share in our immortality after death as Jupiter and Saturn have in our life *before* death. It is really so, we have to see something in the Cosmos which corresponds to the relation between the comparatively more spiritual organisation of the head and the rest of the human organisation.

Now let us suppose that Saturn pursues his movement also in a like curve (lemniscate) — only, of course, his path is different through cosmic space — with the 30 times less rapid movement than the Earth; if we picture these two curves, we must realise that each Cosmic body which follows such a path (lemniscate) is obviously moved in this path by forces, but each one by forces of a different kind. Then we come to an idea which is extremely important and which, if taken rightly, will probably at once strike you as true. If it does not, it is only because, under the influence of the materialism of the last centuries, people are not accustomed to connect such things with the facts of the Universe.

To the modern materialistic view of the Cosmos, Saturn is observed merely as a body moving about in cosmic space; and the same with the other planets. This is not the case; for if we take Saturn, the outermost Planet of our Universe, we must represent him as the *leader* of our planetary system in cosmic space. He directs our system in space. He is the body for the outermost force which leads us round in the lemniscate in cosmic space. He is the driver and the horse at the same time. Saturn is thus the force in the outermost periphery. Were he alone to work, we should continually move in a lemniscate. But there are other forces in our planetary system which show a more intimate adjustment to the spiritual world — the forces that we find in Mercury and Venus. Through these forces our path is continually raised. Thus, when we look upon the path from above, we have the lemniscate, but when we look at it from the other side, we obtain lines which are continually rising upwards; there is a progression.



This progression corresponds in man to the fact that during sleep what we have taken into us, though it may not pass over at once into consciousness, is elaborated; during sleep we work upon it. It is principally during sleep that we work on what we have absorbed through our life, our training and education. During sleep Mercury and Venus communicate that to us. They are our most important night-planets, as Jupiter and Saturn are our most important day-planets. Hence the old instinctive atavistic wisdom was right in connecting Jupiter and Saturn with the formation of the human head, Mercury and Venus with the formation of the human trunk, with the rest of the organism. These things arose from an intimate knowledge of the connection between man and the Universe.

Now I will ask you carefully to consider the following. It is first of all necessary to understand from inner grounds the movement of the Earth. We must recognise the influence upon it of the Venus and Mercury forces, which themselves bear the lemniscate on further, so that it progresses, and its axis becomes itself a lemniscate. We have thus for the Earth an extremely complicated movement. And now I come to what I wish to point out. Suppose we have to draw this movement. Astronomy tries to do so. Astronomy wants to have a planetary system; it wants to draw the solar system and explain it by calculation. Planets such as Venus and Mercury, however, have relation to the extra-spatial, the super-sensible, the spiritual, to that which does not originally belong in space, but has, as it were, come into, it. Thus if you have the paths of Saturn, Jupiter, Mars, and in the same space, draw in also the paths of Mercury and Venus, you will get at most a projection of the Mercury or of the Venus orbit, but in no sense the orbits themselves. If we employ the three-dimensional space to sketch in the orbits of Jupiter, Saturn and Mars, we come at most to a boundary, where we get something like a path of the Sun. But if we wish to draw the others, we can no longer do so in the three-dimensional space, we can only get shadow-pictures of these other movements in it; we cannot draw the path of Venus and that of Saturn in the same space. From this we see that all delineations of the solar system where the same space is used for Saturn as for Venus, are only approximate, they do not suffice for a solar system. Such drawings are as little possible as it would be to explain the whole being of man according to purely natural forces only. This shows why no solar system is adequate. A non-astronomer such as Johannes Schlaf could easily prove to quite well-established astronomers the impossibility of their solar system by very simple facts, pointing out that if the Sun and the Earth are so related that the latter revolves round the former, the Sun-spots could not show themselves as they do, the Earth being at one time behind the Sun, at another in front, and then going round it again. That, however, is in no wise the case. No drawing of our solar system that is inscribed into one space of the ordinary three dimensions will be right. We must understand this. Just as in the case of man, in order to understand him as a whole we must pass from physical to super-sensible forces; so in the same way, to understand the solar-system, we must pass from the three dimensions into other dimensions. That is to say, we cannot delineate the ordinary

solar system in the three-dimensional space. Planetary 'globes' and so forth we have to look at in this way: If here we have Saturn on the globe and there Mercury, then it is not the true Mercury but its shadow only, its projection.

These are things that must be brought to light by Spiritual Science. They have quite disappeared. About six or seven centuries before the Christian era, the ancient primeval wisdom began gradually to disappear, until replaced by Philosophy from the middle of the fifteenth century. But men such as Pythagoras, for instance, still knew so much of the ancient wisdom that they could say: We dwell on the Earth, we belong through the Earth to a cosmic system, to which Jupiter and Saturn also belong; but if we remain in these three dimensions, then we shall not belong in the same way to Venus and Mercury. We cannot belong to the two latter directly, as we do to Saturn and Jupiter; but if our Earth is in one space with Saturn and Jupiter, there must be a '*counter-Earth*' which is in another space with Venus and Mercury. Hence ancient astronomers spoke of the Earth and the counter-Earth. Of course the modern materialist would say: "Counter-Earth? I see nothing of that!" He is like a person who weighs a man, having first charged him to think about nothing, and weighs him again when he has charged him to think a specially clever thought, and then says: I have weighed him, but I have not found the weight of his thought. Materialism rejects what has no weight or cannot be seen. Remarkable things however shine out of the atavistic primeval wisdom to which we can return by the inner vision of Spiritual Science. It is of urgent necessity that we should work our way through now to that which is entirely new and which has yet been on Earth all the time, and has only now in these days to be acquired in full consciousness. Unless we do, this we shall lose the very possibility of thinking.

I called attention yesterday to the fact that in social thought men strive for mono-metalism for the sake of free trade-and Protection comes! No true social order will arise out of what is being striven for on the foundation the thinking man possesses To-day; a true social order can only come about through a thinking trained in a science which does not draw a planisphere showing Saturn and Venus in the same space. For the view of the Universe which we are giving here does not merely mean that we hold something up before us, but also that, in a sense, we *learn to think*. What exactly does this mean?

Remember what I have said: When our bodily organisation is remodeled in the next incarnation, it not only goes through a change, but is turned inside out; as a glove is turned from a left-hand to a right-hand glove by turning it inside out so too what is now inside — liver, heart, kidneys — becomes the outer sense-organs, eye, ear and so on. It is all turned inside out. This corresponds to another turning inside out: Saturn on the one side, and wholly outside his space, Venus and Mercury. A reversal in itself. If we do not observe this, what happens? It is the same, when we do not observe the turning inside out in the case of the human head, or when we do not observe the Universe under this law of reversal; we do something very peculiar. We do not in that case think with our head at all And this is something to which the fifth post-Atlantean epoch is tending, in so far as it is descending and not seeking to ascend again by means of Spiritual Science. Man would like to wrest his head free and think only with the rest of the organism; that mode of thought is abstract. He wants to set free the head. He has no desire to lay claim to what has resulted from the foregoing incarnations. He wants to, reckon only with the present one. Not only do men wish to deny the theory of successive Earth-lives, but carrying their head as it were with external dignity, they would like to set it as lord over the rest of the organism, they would have it like a man riding in a carriage. And they do not take that rider in the carriage in earnest; they carry him about with them, but make no claim upon his innate capacities. They make no practical use of their repeated Earth-lives.

This tendency has virtually been developing ever since the beginning of the 5th post-Atlantean epoch, and we can only oppose it by adopting Spiritual Science. One might even define Spiritual Science as that which brings man to take his head in earnest once more! From one point of view the essential part in Spiritual Science is really that it takes the human head in earnest, not me-rely regarding it as an addition to the rest of the organism. Europe especially, as it so rapidly approaches barbarism, would like to free the head. Spiritual Science must disturb this sleep. It must make its appeal to humanity: 'Use your heads!' This can only be done by taking the belief in repeated Earth-lives seriously.

One cannot talk of Spiritual Science in the way that is usually done, if one takes it in earnest. One must say what *is*; and to what is belongs something which appears as sheer madness, belongs the fact that men disown their heads. They would rather not believe this, they prefer to regard truth as madness. This has always been so. Things in human evolution come about in such a way that men are taken unawares by the new.

And so they must of course be shocked and astonished by this emphasis on the necessity for using the head. Lenin and Trotsky say: Do not use your head, act for the rest of your organism. The rest of the organism is the vehicle of the instincts. Men are to be led by instincts alone. And they carry it out. It is their practice that nothing that arises from the human head should enter the modern Marxist theories. These things are very serious — *how* serious they are has to be emphasised again and again.

LECTURE TWELVE

You will remember that I have discussed in detail how much criticism has come from many sides of the idea of a connection between the Christ Event, the appearance of Christ on Earth, and Cosmic events such as the course of the Sun, or the relation of the Sun to the Earth. The connection can only be understood when one studies more deeply all that we have hitherto said as to the movements of the stellar system. Let us make a beginning in this direction today, for you will see that ultimately astronomy cannot really be studied at all without entering into a study of the whole being of Man. I have already mentioned this, but we shall see how deeply grounded is the statement in the whole being of the world, for we can only understand something of the nature of the world or of the nature of Man when we consider the two together, not separately, as is done at present. You will observe a curious fact in relation to this very matter, namely, that materialism, if only it is not directly acknowledged to be such, is preferred by the religious denominations to Spiritual Science. That is, both Protestants and Roman Catholics prefer to consider the outer world in its various realms in a materialistic sense, rather than to enquire how the Spiritual works in the world and presents itself in material phenomena. In confirmation of this you need only consider the Jesuits' views of Natural Science. These are strictly materialistic; from their point of view the outer world, the Cosmos, is only to be understood in the light of quite materialistic interpretations. The utmost care has been taken to protect in this way a certain form of faith, which has been cultivated since the Council held in Constantinople in 869 — to protect it by keeping external science on the level of materialism. Of course in the widest circles, illusions have arisen through the apparent conflict with materialism even in scientific realms. This however is only apparent, for it does not matter whether one says that there is spirit somewhere, or whether one denies spirit altogether, if the material world itself is not explained spiritually.

You know perhaps that the acme of modern interpretation of external nature is Astro-physics, the theory that sets out to study the material starry world, to establish the material unity of the world accessible to the senses. Now one of the greatest Astro-physicists is a Roman Jesuit, Father Secchi. There is no difficulty in standing on the ground of modern material science and at the same time adhering to this shadow of religious belief. This means that as a matter of fact, a materialistic interpretation of the heavens stands nearer today to the religious creeds, and especially to one of the Jesuit persuasion, than does Spiritual Science, for this particular creed is especially concerned not to explain the world by showing the relation of the material to the spiritual. The spiritual must form the content of an independent form of belief in which nothing is said of the scientific study of the Universe; the latter is to remain materialistic, for the moment it ceases to be so it would have to go into what relates to the spiritual — it would have to speak of spirit.

What has just been said must be taken seriously, otherwise we should overlook the significant fact that the Jesuit scientists are the most extreme materialists in the domain of Natural Science. They continually allege that Man cannot approach the spiritual by research into Nature, and they take trouble to keep the spiritual as far removed as possible from such research. This can be traced even in Father Wasmann's studies of ants.

After these preliminary remarks, let us recall an important fact which apparently takes its course entirely in the spiritual world, but which, when we consider this part of our argument more closely, will make clear to us a parallel phenomenon between spiritual life and the life of the external starry world. As you know, we divide the post-Atlantean time into epochs of civilisation, naming the first the old Indian, the second the old Persian, the third the Chaldean-Babylonian-Egyptian, the fourth the Graeco-Latin; and then there is the fifth, in which we now live, beginning in the middle of the fifteenth century. A sixth will follow this, and so forth. I have frequently shown how the fourth epoch began in the continuous stream of the post-Atlantean time, about the year 747 BC., and ceased — speaking roughly, I always say about the middle of the fifteenth century, but to speak more accurately, it really ended in the year AD. 1413. That was the fourth; and we are now in the fifth.

If we thus consider the succession of civilisations, we can describe their characteristics, bearing in mind the descriptions given in *Occult Science*. Thus we can describe the Graeco-Latin, in which the Event of Golgotha occurred, but in doing so we need not refer to that Event, for we can describe the epoch by connecting it with the preceding one. It is possible to describe the successive epochs in their fundamental nature, and to have an epoch from 747 BC. to AD. 1413 so running its course that nothing in history shows that during this time an important event occurs. Let us recall the time of the occurrence of the Event of Golgotha, remembering all we know

concerning the civilisations of the most advanced people of the time—the Greek, the Roman and the Latin. Let us reflect that to these people the Event of Golgotha was an unknown affair. It occurred in a small corner of the world, and the first mention of its effects is to be found in Tacitus, the Roman historian, one hundred years later. It was not observed by its contemporaries, least of all by the most cultured.

Thus the fact comes into evidence in the historical stream of evolution that there was no necessity inherent in the regular progress of the evolution of mankind from the first three epochs of civilisation to the fourth, that the Event of Golgotha should take place. This fact should receive close attention. The Event actually took place 747 years after the beginning of the fourth post-Atlantean period. In trying to understand the Event of Golgotha, we may say that it gave purpose and meaning to the life of the Earth, that the Earth would not have had this meaning if evolution had simply gone on as the outcome of the first, second and third post-Atlantean epochs. The Event of Golgotha came as an intervention from other worlds. This fact is not sufficiently considered. In modern times several historians have alluded to it, but they have not been able to make anything of it. In fact, history practically omits the Event of Golgotha. At most the historians describe the influence of Christianity in the successive post-Christian centuries, but the actual intervention of the Mystery of Golgotha itself is not described in an ordinary course of history. It would indeed be difficult to describe it, if one kept to the ordinary methods of history. Certainly remarkable men — oddly enough, clergy among them — have attempted to explain the causes of the Event of Golgotha. Pastor Kalthoff, for instance, and many others. Pastor Kalthoff tried to explain Christianity from the consciousness and the economic conditions of the last centuries preceding the appearance of Christ. But what did this explanation amount to? In effect it said: People lived in certain economic conditions, and eventually the idea of Christ arose, the dream of Christ, as it were, the ideology of Christ; and from these arose Christology. It arose in humanity only as an idea. People like Paul, and a few others, described what had thus arisen as an idea as though it had occurred as a fact in a remote corner of the world! — Such explanations mean a doing-away with Christianity. It is a noteworthy phenomenon of the nineteenth and beginning of the twentieth centuries that Christian pastors should set themselves the task of saving Christianity, by eliminating Christ. People were ashamed to admit the facts of the rise of Christianity outright. They found it more satisfactory to explain the rise of Christology, to explain it simply as an idea. Various streams of thought found their way into this domain, and one special province of science has become remarkable in this connection, arising in the materialistic stream of culture which reached its culminating point in Marxism. Thus Kalthoff is a kind of Marxist Pastor who tries to explain Christology out of a sort of pious Marxism. Others have ridden other hobby horses in seeking an explanation for the phenomenon of Christianity; why then should not each explain Christianity or explain Christ Jesus, according to his own fancy? A psychiatrist explains Christ according to psychiatry, simply by saying that the way in which Christ appeared in His time can be explained today from the standpoint of psychiatry as due to an abnormal consciousness. This is no isolated case. And these are phenomena which must not be disregarded, otherwise we do not see what is happening at the present time, for they are signs of present day life as a whole. We must clearly recognise that which has given the Earth a meaning, was an intervention from another world. We must distinguish *two streams in human evolution*, which indeed run side by side today, but only met for the first time at the beginning of our era. One is the Christian stream, which was added to the continuous current from olden times. Natural Science, for instance, has not yet accepted the Event of Golgotha and flows on in the continuous stream as though that Event had never occurred. Spiritual Science must endeavour to bring *natural scientific study and Christology* into harmony; for where has Christology any place if the Kant-Laplace theory holds sway and we look back to a primeval mist out of which everything has been formed? Would Christianity ultimately have any real world-significance for Man on Earth if the stars were regarded as they are by Father Secchi? For the starry heavens are regarded by him materialistically, not as though an Event of Golgotha had been born from out of them. And that becomes the chief ground for leaving it to *other* powers to say how Man should think of the Event of Golgotha. If Man can develop nothing from Cosmic knowledge concerning the Event, some other source must be found to tell him what he ought to think of it, and it is obvious that Rome is that source. All these things are so consistently — in a sense, so grandly — thought out, that it is inexcusable to be under any illusions about them at the present difficult and fateful time.

These 747 years fall in the world's evolution as a period which speaks with the utmost significance. It tells us of all that is connected with the old evolution, all that recalls, and is related to the past periods of time. The new beginning commenced at the end of this epoch, 747 years after, let us say, the founding of Rome—which was really 747, not the point of time given in the ordinary history books.

Here we have a fresh start, and if we now go back and take the periods of time, we shall have to say that everywhere we must add fresh turning-points of time to those already rightly assigned. An entirely new division of the course of time was brought about by the Event of Golgotha's falling in this period, inserted into human evolution from outside, as it were. We must clearly realise the existence of these two streams in world evolution in so far as Man is involved in it. If we hold fast to this we can now see something more.

We know that according to the view of ordinary astronomy, the Moon moves round the Earth. (In reality she does not do this as generally as described; she too describes a lemniscate; but for the moment we will disregard this.) The Moon moves round the Earth. While so doing she also revolves around herself. I have already explained this. She is a polite lady and always turns the same side to us, her back is always turned away from the Earth. Not however quite exactly; we can only say that virtually, speaking generally, she always turns the same side to the Earth. A seventh part of the Moon indeed goes round the edge, as it were, so that really it is not quite always the front of the Moon that is turned towards us, for after a time a seventh part comes forward from the back, and another seventh part retires. This is compensated by the further movements; the whole seventh does not quite go over, it returns; and the Moon reels, as she goes round the Earth — she actually reels. I will only mention this here; in any elementary astronomy book you can look up further details. Could we transport ourselves to a far-distant spot in Cosmic space, which according to the calculations of astronomy would be only a far-distant star, this rotation of the Moon on its own axis would from there take somewhat more than 27 days. If however, we transport ourselves to the Sun, we see that the movements of the Sun and Moon are not uniform, they move with dissimilar velocities; this rotation of the Moon seen from the Sun is not the same as seen from a distant star, but takes rather more than 29 days. Thus we may say that the stellar day of the Moon is 27 days, and its solar day 29 days.

This of course is connected with all the intervolving which takes place in the Universe. As we know, the Sun rises at a different vernal point every Spring, moving round the whole ecliptic, round the whole Zodiac in 25,920 years. These reciprocal movements bring it about that the stellar day of the Moon is considerably shorter than its solar day.

Bearing this in mind we may say: Here too is something remarkable. Every time we make an observation we notice a difference from one full Moon to another in the mutual aspects of Sun and Moon, a difference of almost 2 days. That shows us that we have to do with two movements in Cosmic space, which indeed go together but do not point back to the same origin. What I have set forth here from a Cosmic point of view, can be compared with what I have set forth previously from an ethical-spiritual point of view. There is an interval between the beginnings of the individual epochs of civilisation in the one stream and the beginnings of those connected with the Christ Event. It is always necessary when it is full Moon, as regards sidereal time, to wait for the accomplishment of the solar time. That lasts longer. There is again an interval. Thus in the Cosmos we have two currents, two movements, one in which the Sun takes part, and another, the Moon; and they are of such nature that we may say: If we start from the Moon-stream, we find the Sun-stream intervening in it, just as the Christ-Event intervenes in the continuous stream of evolution, as though coming from a foreign world. To the Moon-world the Sun-world is a foreign world, from a certain point of view.

Now let us consider this subject from yet a third standpoint. This we can do by trying to remember exactly how the human memory works, especially when we include the reminiscence of dreams. We find, for instance, that what has taken place quite recently, although it does not enter the inner movements and course of the dream, plays into its picture world. Do not misunderstand me. We can of course dream of something that happened to us many years ago, but we do not do so unless something has recently occurred which is related by some thought or feeling to the earlier years. The whole nature of dreams is in some way connected with quite recent occurrences. If one wishes to observe such matters, it must be assumed that one is a person who notices the fine details of human life; if such be the case, observation will furnish as exact results as any exact science.

To what is this due? It is due to the fact that a certain time is required in order that what we experience in our soul may be imprinted by the astral body upon the etheric. Approximately from two and a half to three days, though sometimes after only one and a half or two days, but never without having slept upon it, what we have experienced in our intercourse with the world is imprinted by the astral upon the etheric body. It always takes a certain time to be established there. Now compare this fact with another — viz. the fact that in everyday life we alternately separate physical body and etheric body from the astral body and Ego in sleep, and in waking unite

them. We may therefore say that altogether between birth and death there is a rather looser connection between the physical and etheric bodies on the one hand and the Ego and astral body on the other. For the physical and etheric bodies remain *always* together between birth and death, and the astral body and Ego keep together also, but not the astral and etheric bodies; every night they separate. There is thus a looser connection between the astral and etheric bodies than between the etheric and physical; and this is again expressed in the fact that there must in a sense be a certain parting-asunder of the astral and etheric bodies before what we have experienced in the astral body is imprinted upon the etheric body. When some event influences us, it does so of course in the waking condition. This means it works upon the physical, etheric and astral bodies and the Ego. There is however, a difference in their reception of its working. The astral body takes it up at once. The etheric needs a certain time for the impression to be so established that there should be complete harmony between the astral and etheric. Does not this clearly and distinctly show that although we confront an event with all four principles of the human being, there are two currents which do not run the same course in their connection with the outer world, one stream needing longer than the other? There we have the same as we have in history, the same too as we have in the Cosmos-Moon and Sun, Heathendom and Christendom; and now, etheric and astral. Always a differentiation in time. Thus we find this interaction of two streams appearing in our ordinary life, two streams which come together and give a common resultant for life, but yet cannot be grasped so simply as to permit of the causes and effects of the one stream coinciding with the causes and effects of the other.

These things are of the highest importance for the consideration of the Universe and of life, and cannot be dispensed with if one wishes to understand the Universe. There are other facts too which are also entirely overlooked. And what do all these things betoken? They indicate the existence of a certain harmony between cosmic life, historical life and the life of individual men; but a harmony not constructed as is usual today where there is a desire to account for everything by a fundamental law of bio-genesis. The consequence is that we cannot have a single Astronomy but need different Astronomies, one of the Sun, another of the Moon. If we have two clocks, one always a little slower than the other, then the latter will always be in advance; but we should never be able to assume that what happens on the one has its cause on the other. That would be impossible. So too, although there is a certain conformity to law in the one being always the same amount behind the other, the two streams of which we have been speaking have nothing to do with one another; they only work together as I look at them together. Solar astronomy has nothing to do with lunar astronomy. The two only work conjointly in our Universe.

It is important to bear this in mind, and just as we have to distinguish between the solar and lunar astronomy as regards the regulation of the movements of the Sun and Moon, so too must we distinguish in history between what takes Place in us by reason of the movement in the periods of civilisation, and what takes place in us through our being in the cycle of time whose central point is the Event of Golgotha. These two things work together in the world, but if we wish to grasp them, we must discriminate between them. We see the prototype of the historical in the cosmic, and we see the ultimate expression — I do not say the effect — but the last expression of these universal facts in our own life in the two or three days which must elapse before our thoughts have become so far firm that they are no longer above in the astral body where they may appear as dreams, as it were, of themselves, but are below in the etheric body and must be brought up by our own active memory or by something that recalls them. Thus within us one movement flows into the other. Just as we have to realise that there is a lunar current that, as it were, generates independent systems or structures of movement, so we must realise that we in our human being are closely connected as regards our physical and etheric bodies with something beyond the human, while on the other hand, in our astral body and Ego we are closely related to something *else* beyond the human.

Concerning these things a veil of darkness is spread by modern observation, which confuses everything, and assumes a cosmic mist which forms into a ball from which the Sun, Moon, Planets emerge. This is not the case, the Sun and Moon are not from the same origin but are two streams running side by side; and just as little can Man's human Ego and astral body be traced to the same origin as his physical and etheric bodies. They are two different streams. In the book [*Occult Science*](#) it will be seen that these two streams must be traced back to the Sun period. Then to be sure, on going back from the Sun to Saturn, one comes to a sort of unity. This however, lies very far back indeed; from the Sun onwards, there is continually the tendency for two streams to run side by side.

In this description I have wished to show how necessary it is to throw light on the parallel between cosmic existence, historical existence and human existence, in order to arrive at a judgement of how Man has to relate to the cosmic movements. We have seen that if he places himself rightly, the result is not one astronomy, but *two*; a *solar* and a *lunar* astronomy. So too we have a human development of a *heathen* nature — natural science is still heathen — and a human development of a *Christian* nature. In our day many have the tendency to prevent these two streams, which have met on Earth in order to work together, from coming together.

Consider for instance, how the whole purport of a book such as that of Traub [*Rudolf Steiner als Philosoph und Theosoph, by Friedrich Traub, Tübingen, 1919.] — the rest of the book has no meaning without this — consists in the assertion: ‘Yes, Dr. Steiner wishes to unite the two streams, heathen and Christian. We will not let that happen. We want natural science to remain heathen, so that there may be no necessity to bring about anything in Christendom which may reconcile it with natural science.’ of course, if Natural Science is allowed to be heathen, Christianity cannot unite with it. Then it can be said: ‘Natural Science is carried on externally, materialistically; Christendom is founded on faith. The two must not be reconciled.’ Christ however, truly did not appear on Earth in order that side by side with his Impulses the heathen impulse should increase in power; He came to permeate the heathen impulse. The task of the present time is to unite what man would keep asunder — Knowledge and Faith — and this must come to pass. Therefore attention must be drawn to such things, as I have done in one of my recent public lectures. On the one side the Church has reached the conclusion that Cosmology is not to be admitted into Christology, and on the other hand a Cosmology is reached by the principle of the indestructibility of matter and force. [*The word “force” on this page is generally rendered “Energy” in English scientific writing (Indestructibility of Matter and Energy).] But if matter and force are regarded as indestructible and eternal, it leads to the treading under foot of all ideals. And then Christianity too is meaningless. Only when what constitutes matter and its laws is regarded as a transitory phenomenon, and when the Christ-Impulse becomes a seed of what will exist when matter and force no longer rule as they do now according to law but have died away, then alone will Christianity, and then alone will ethical ideals and human worth, have a true meaning. There are two great antitheses: The one arising from the final logical conclusion of heathenism — ‘Matter and Force are immortal’, and the other arising from Christianity — ‘Heaven and Earth shall pass away, but My words shall not pass away.’

These are the two greatest contrasts which can be expressed in a concept of the world, and our age has indeed every need not to be confused about such things, but with a mind-awake, earnestly to look at what must be attained as a right concept of the world, in which moral human value and the Christian Impulse in the evolution of the world are not lost sight of in the illusion of indestructible matter and indestructible force. More of this in the next lecture.

LECTURE THIRTEEN

I have now brought together many and various matters which may help us to a perception of the structure of the Universe in its relation to Man. We have seen — and this must be emphasised again and again — that the Universe cannot be grasped without Man. That means that it is not possible to understand the Universe in itself, without keeping in mind Man and the relation of the Universe to him. If one wishes to form in a very simple way an idea of Man's connection with the Universe, one need only think of a theme in elementary astronomy — the so-called 'obliquity of the ecliptic' — that is, the oblique position of the Earth's axis in relation to the line, the curve, which passes through the Zodiac. This obliquity of the ecliptic may be understood and even interpreted as you will; with such interpretations we are not for the moment concerned as to whether they accord with reality or not; we are concerned rather to bring a certain fact to your notice. If the Earth's axis — the axis on which the Earth turns daily — were perpendicular to the plane through the Zodiacal ecliptic, then day and night would be equal throughout the year over the whole Earth. If the Earth's axis lay *in* the ecliptic, then over the whole Earth one half of the year would be day and one half night. Both extremes do in a certain respect actually occur at the equator and at the poles. But in between lie regions where the length of day varies in the course of the year. We need only reflect a little on this matter to arrive at the tremendous significance for the whole evolution of earthly civilisation, of the position of the Earth's axis in cosmic space. Just reflect, we could all of us throughout the Earth be only Eskimos if the axis lay in the ecliptic; were it vertical to the ecliptic, the whole Earth would be filled with the kind of civilisation that prevails at the equator.

Thus as regards the position of the Earth's axis, no matter how it may be interpreted — of course an understanding of the truth depends upon what interpretation we give it, but any interpretation will serve to make one perceive the connection between Man, his culture and civilisation, and the structure of the Universe; and the fact behind the interpretation, whatever the latter may be, compels us to regard Man and the Earth as forming part of the Universe, and not, in respect of man's physical being, as though he could be considered independently. This cannot be done. As physical being, Man is not a reality in himself, but only when regarded as one with the whole Earth, just as a hand severed from the human organism cannot be regarded as in any true sense a reality: it dies, it is only thinkable in connection with the organism. A rose, when plucked, dies, and as a reality it is only conceivable in connection with the rose-tree which is rooted in the Earth; so too, to estimate Man in his entirety, in his totality, one cannot regard him as simply enclosed in the boundaries of his skin.

Thus what we experience on Earth must be considered in connection with the Earth's axis. It is important in a view of the Universe based on reality that what is a partial truth should not be interpreted as a whole truth. We come to comprehend in its reality the whole man as a being of soul and spirit by not considering him as a reality in his physical nature. He is a reality as a being of soul and spirit, a complete independent reality, a true individual. What he inhabits between birth and death—the physical and etheric bodies—are not realities in themselves, they are members of the whole Earth, and as we shall presently see, they are even part of another whole.

This brings us to something which must be observed still more closely. I must again and again point out one thing. The ideas we form of man almost always tend, unconsciously, to our regarding him as a solid body. True, we are aware that he is not precisely a hard body, that he is to some extent plastic, but we are very often unaware that he consists of far more than 75% fluid, of which only the residue can be regarded as solid mineral being. Man is really 75% a water being. Now I ask you, therefore, is it possible to describe the human organism, as is usually done, in sharp outlines — saying: 'Here we have the lobes of the brain, here this organ', and so forth, and then assume that the solidly circumscribed organs combine in their activity to bring about the activity of the whole organism? There is no sense whatever in that. It is a question of bearing in mind the fact that Man within the limits of his skin, is, as it were, surging water; that what is purely inwardly surging fluidity also has a meaning, and that we should not describe Man as if he were more or less a solid body. In Spiritual Science this has a very deep significance. For precisely when we consider the *solid* in Man, which is in a manner connected with the external minerals, we find that the solid in the human being has a certain relation to the Earth.

We have observed the various relations of Man to the world around him, we will now establish the relation of his solid substance to the *Earth*. This connection exists; the *watery* element in Man has, however, primarily no

connection with the Earth but with the planetary Universe outside, and especially with the *Moon*. Precisely as the Moon, not directly but indirectly, has a relation to the ebb and flow of the tides, to certain configurations of the fluid part of the Earth, so too it has a connection with what takes place in the fluid part of the human organism. I described yesterday that we have on the one side the astronomy that applies to the Sun — and also to the Earth. We ourselves are part of that astronomy, for we are organised into it as organisms containing solid substances. Lunar astronomy however, is different. We are organised into lunar astronomy in so far as it is connected with our fluid constituents. Thus we see that the forces of the Cosmos work into the solid and fluid parts of our physical nature.

This has a still greater significance, which is, that what we call our Ego has primarily a direct influence on our solid man, and that what we call our astral body has an *indirect* influence on our fluid man — so that what works from the soul and spirit upon our organisation, comes, through our bodily nature, also into connection with all the forces of the Cosmos. These movements of the Cosmos have always been a subject of observation, from the most varied points of view. When we look back to the ancient Persian civilisation we find that even then researches were made into the movements of the Universe. These researches were also made by the Chaldeans and by the Egyptians, and it is not without interest to study the attitude of the Egyptians to movements of the Universe. They had, of course, for what were apparently quite material reasons, to study the connection of the Earth with the outer Cosmos, for their land depended upon the inundations of the Nile which took place precisely when the Sun was in a definite position in the Universe. This position could be determined by that of Sirius; so that the Egyptians had arrived at making observations as to the position of the Sun in relation to what we now call the Fixed Stars. Especially in the Egyptian sacerdotal colonies, in their Mysteries, extensive researches were made into the relation of the Sun to the other stars. As I have already said, the Egyptians knew perfectly well that each year the Sun appeared to have shifted its position in the heavens in regard to the other stars, and they calculated thereby that the stars—whether apparently or really is immaterial just now—as they daily moved round the heavens, had a certain velocity, and that the daily movement of the Sun had also a certain velocity, but not quite so great as that of the stars. The Sun always lagged somewhat behind. The Egyptians knew and recorded the fact that the Sun lagged behind about one day in 72 years, so that when a particular star which rose with the Sun in a definite year rises again 72 years later, the Sun does not rise with it but 24 hours later. A star belonging to the world of fixed stars, a star in the Zodiac, outstrips the Sun by one day, one full day, in every 72 years. Multiply 72 by 360 and we obtain 25,920 years. That is a number which we often meet with. It is the time needed by the Sun in its lagging behind to get back to its starting-point; having thus gone round the whole Zodiac. The Sun is therefore exactly one degree behind in 72 years, for a circle has, as we know, 360 degrees. According to this reckoning, the Egyptians divided the great year — which really comprises 25,920 years — into 360 days; but such a day was 72 years long. And 72 years, what is that? It is the average limit of duration of man's life. Certainly there are individuals who live to be older, others not so old, but in general it constitutes the farther limit for human life. Thus one can say: The whole connection in the Universe is so constructed that it sustains a man's whole life for a solar day, which is 72 years. True, man is emancipated from that. He can be born *at any* time; but his life here as physical man between birth and death is arranged according to the solar day. Referring to historical records, one generally finds that the ordinary year of the Egyptians was reckoned as 360 days (not 365.25 as it actually is), until later on it was found to accord so little with the course of the stars that the other 5 days had to be inserted. How came it that the Egyptians originally took 360 days for the year? In the cosmic year a degree — that is, a 360th part — is actually a cosmic day of 72 years. Thus in the Egyptian Mysteries it was taught that man is so connected with the Cosmos, that the duration of his life is one day of the cosmic year. He was thus organised into the Cosmos. His relation to the Cosmos was made clear to him through connections which belong to the decadence of the whole evolution of the Egyptian people.

The essential nature of man and his connection with the Cosmos was not then made known to the wide mass of the Egyptians — that is characteristic of the time. It was said that if all men knew the nature of their being, how it is organised into the Cosmos, and that the duration of their own life has its part in the duration of the Sun's revolution, then those who felt themselves organised into the Universe would not allow themselves to be ruled, for each would regard himself as a member of the Universe. Only those were allowed to know this who it was believed were called to be leaders. The rest were not to possess such knowledge of the Cosmos, but a knowledge of the day only. This is connected with the decadence of the Egyptian civilisation. It was certainly

necessary in regard to many other things, that immature people should not be initiated into the Mysteries, but this was extended to such things as gave power to the leaders and rulers.

Now, very much of what permeates our human souls today is derived from oriental sources. Traditional Christianity too contains much which has come from oriental sources; and especially into Roman Christianity a strong impulse has descended from Egypt. Just as the Egyptians were kept in ignorance concerning their connection with the Cosmos, so in certain circles of Romanism the view prevails that people must be kept in ignorance of their connection with the Cosmos which comes about through the Mystery of Golgotha. Hence the fierce conflict which arises when, from an inner necessity of our age, we emphasise that the Event of Golgotha is not simply something which must be regarded as outside the rest of cosmic conception but rather as inserted into it, when we show how what took place on Golgotha is really *connected with the whole Universe* and its constitution. It is regarded as the worst heresy to describe Christ as the *Sun-Spirit*, as we have done.

It must not be supposed that the point at issue is not well-known; but just as the Egyptian priest knew quite well that the ordinary year has not 360 days but 365.25, so certain people are perfectly well aware that the matter with which the Christ Mystery deals is also connected with the Sun Mysteries. But present-day humanity is to be hindered from receiving this *knowledge* — the very knowledge that it needs; for as I have already said, the materialistic view of the Universe is much preferred by that side to Spiritual Science. Materialistic science also has its practical consequences, in which again the present time may be compared with ancient Egypt. I call attention to the fact that the Egyptians as such were thus dependent upon the course of the Sun, on the relation of the earthly to the heavenly, as regards their external civilisation. The withholding of the knowledge of the connection of cosmic phenomena and their effect on the cultivation of the land, represented a certain power in the hands of the declining priesthood, for thereby the Egyptian labourers had to submit to direction from the priests, who had the requisite knowledge.

Now if the European and American civilisations were to retain their present character, adhering only to the materialistic, Copernican view of the Universe — with its off-shoot, the Kant-Laplace theory — a materialistic cosmogony must necessarily arise concerning earthly phenomena, biological, physical and chemical. It would be impossible for a cosmogony of this kind to include the moral world order in its structure. It could not embrace the Christ-Event, for it is impossible to be a believer in the materialistic view of the world and at the same time a Christian; that is an inner lie, it is something that *cannot* be, if one is honest and upright. Hence it was inevitable that the practical consequences should be seen in Europe and American culture, of the split between materialism on the one hand and a moral cosmogony on the other, and along with the moral cosmogony, also the contents of the religious faiths. This result was evidenced in the fact that men who had no external reason for being inwardly dishonest, threw faith overboard, and established a materialistic cosmogony for human life also. Thereby the materialistic cosmogony became a social cosmogony. This would however have the further consequence for our European and American civilisation that man would have a materialistic cosmogony only and would know nothing of the Earth's connection with cosmic powers, in the sense that we have described it. Within a certain caste, however, the *knowledge* of the connection with the cosmogony would remain, just as the Egyptian priests kept the knowledge of the Platonic year, the great cosmic year and the great cosmic day; and such circles could hope then to rule the people who under materialism degenerate into barbarism.

Of course these things have been said today only from a sense of duty towards truth; but they *must* be said out of such a duty to truth. It is of importance that a certain number of people should realise how necessary it is to give the Mystery of Golgotha its cosmological significance. This significance must be recognised by a number of people, who must on their part, undertake a certain responsibility that the fact should not remain hidden from earthly humanity — the fact that humanity is connected with the non-earthly Spirit, who lived in Palestine in the Man Jesus, at the beginning of our era. It is necessary that the knowledge of the entrance of Christ from the non-earthly world into the Man Jesus of Nazareth, should not be withheld. To such penetration belongs the overcoming of that dishonesty which is so general today in questions of cosmic conceptions and of faith. For what is done today? We are told on the one hand that the Earth moves in an ellipse round the Sun and has evolved in the sense of the Kant-Laplace theory, and we subscribe to this; and on the other hand we are told that at the beginning of our era such and such events took place in Palestine. These two things are accepted, without being connected; people accept them and think it of no consequence. It is not without consequence however, for it is much less evil when a lie is consciously accepted, than when it takes shape unconsciously, and degrades

Man and drags him down. For if we consider a lie as it appears in a man's consciousness, every time he falls asleep it leaves his physical and etheric bodies with his consciousness, and lives on in spaceless, timeless being, in the eternal being, while Man is in dreamless sleep. There is prepared all which can result from the lie in the future; that is, everything is made ready to correct it, if it is in the consciousness. But if it is in the unconscious, it remains with the physical and etheric bodies lying in bed. When Man is not occupying these bodies, it then belongs to the Cosmos, and not to the earthly Cosmos alone, but to the whole Cosmos; there it works for the destruction of the Cosmos; above all, for the destruction of the whole of humanity, for this destruction *begins* in humanity itself.

Man can escape what threatens humanity in this way, by no other means than by striving after inner truth as regards such supreme questions of existence. Thus there is a kind of appeal to humanity today from out of the impulses of our time to realise that a materialistic astronomy knowing nothing of how at a definite point of time the Event of Golgotha took shape, should no longer exist. Every astronomy which includes the Moon in the structure of the Universe just the same as the Sun and Earth, instead of allowing the two streams to run in with one another, but still as separate streams — every such astronomy is no Christian astronomy but a heathen astronomy. Therefore every theory of evolution which describes the Universe homogeneously must from the Christian stand-point be rejected. If you follow my book, *Occult Science*, you will see how, in the description of the Saturn and Sun periods, the stream divides into two, which then intermingle and work together. Here we have two streams. In the descriptions usually given, however, the ideas are in accordance with the continuation of the pagan development. And you will find this true down to the very details. You know that Darwinian theorists describing the evolution of the organic form, would say: First there were simple organic forms, then more complicated forms, then more and more complicated forms, and so forth, up to Man. But this is not so. If we take Man as three-membered, his head alone is the development from the lower animal form. What is added to it has arisen later. Thus we cannot say that in our vertebral column we have something which transforms itself into head, we must say: Our head certainly arose from earlier structures which were spine-like; but the *present* spine has nothing to do with that development, it is a later appendage. What is now our head-organisation has arisen from a differently formed spine.

This I say for those who are interested in the theory of descent. I mention it so that you may see that a straight line leads from cosmic considerations to consideration of what lies in human evolution, and so that you may see the necessity for an enlightened Spiritual Science in all different realms of knowledge and of life. For science must not simply continue to develop, as did the science of the last century, under the influence of the materialistic view of the Universe, which is itself a child of the materialistic comprehension of Christianity. We owe materialism to the materialisation of the Christian view of the Universe. The teaching of the cosmic Christ must be re-established in opposition to the materialised form of Christianity we have today. This is the most important task of our time; and until its importance is realised, man will not be able to see clearly in any domain.

I have wanted to tell you these things, because they will enable you to understand better why ill-willed opponents fight so strenuously against what we are bringing before the world today. I was obliged to connect this whole study with a kind of cosmology, with the consideration of which we will continue in the next lecture.

LECTURE FOURTEEN

The essential part of our present study is to recognise how the two streams of the world's history, the heathen stream and the Christian stream, meet in our life, how they work into one another and are connected with the events in the whole Universe. In order to search more closely into this, we must first consider the following. It is essential that we should discriminate as exactly as possible wherein the heathen world-conception, taking it in the widest sense (for indeed, it is still and must remain at the basis of our modern conception of the Universe) — wherein this heathen world-conception differs from the Christian, which has only in a very small degree, in its full reality, passed into the minds of men. The point is, as I have often pointed out, that we have now come to a time when what we may call the cosmogony of Natural Science, and what we call the Moral Order of the Universe — to which of course, also belongs the religious view of the world — stand side by side, utterly unconnected. For the man of today, more than he is aware of, the occurrences belonging to natural and moral happenings are two things wholly apart, which he cannot at all unite if he wishes honestly to hold the position of modern cosmogony. That is why the greatest part of the advanced theology of the nineteenth and twentieth centuries actually has no Christology. I have often remarked on the existence of such books as Adolf Harnack's *The Nature of Christianity*, in which there is no reason whatever why the name of Christ should be mentioned; for what appears therein as 'Christ' is no other than the Deity met with in the Old Testament as the God Jehovah. There is really no actual difference between Harnack's 'Christ' and the God Jehovah — that is, there is no difference between what is said of the Christ-Being and what followers of the Old Testament view of the Universe said of their Jehovah. If we take the idea of Christ held today by many persons and compare it with what they have otherwise as their view of life, there is no reason whatever why they should speak of Christ and Christianity, for to speak of Christ and Christianity — and Nationalism, for example — as many do today is an absolute contradiction. These things only escape notice because people today avoid courageously drawing the logical conclusion of what they see before them. The widest rift however, the widest gulf, exists between the view of things held by natural science and what is held by Christianity; and the most important task of our time is to build a bridge over the gulf. The conception of the Universe held by natural science is absolutely the offspring of the nineteenth century; and it is well not always to describe these things in the abstract, but to look into them a little in a concrete way.

I have often mentioned the name of a prominent personality of the nineteenth century, one who directs our attention directly to the conception of the Universe held by natural science — I refer to *Julius Robert Mayer*, whom we must associate with the nineteenth century view although in his case it leads to some misunderstanding. You know how in a popular way it has been said that the assertion of the law of the conservation of force originated with him — or, to speak more accurately, the law that the Universe contains a constant sum of forces which can be neither increased nor lessened, and can only be changed into one another. Heat, mechanical force, electricity, chemical force, all change one into the other; yet the quantity of the force existing in the Universe remains always the same. Every modern physicist holds this view. Although in popular consciousness men are not aware of this law of the conservation of force and energy, they think of natural phenomena in a way that they can only be thought of when one is under the influence of this law. I want you clearly to understand what I mean. There may be something in the action of a being that corresponds to a certain principle, even when that being is not in a position to understand that principle. Suppose, for instance, that one wished to make a dog understand that a double quantity of meat means that a single quantity has been taken twice over; it could not be done. The dog could not take that in consciously, but *practically* he will act according to this principle; for if he has the chance of snapping at a small piece or at one twice the size, he will as a rule, seize the larger, other conditions being equal. And a man can stand under the influence of a principle without explaining it to himself in abstract form as such. Thus we may say: Certainly most people do not think of the law of conservation of force, but they do picture the whole of Nature in a way that is in accordance with the law, because what they were taught in school was taught on the assumption that the law of conservation of force exists. It is interesting to see how Mayer's line of thought expressed itself when he had to put it clearly to others who did not as yet think along the same lines.

Julius Robert Mayer had a friend who kept a record of many of their conversations. He relates many interesting facts, facts by which one can examine thoroughly the mode of thought of the nineteenth century. In

the first place, to give something quite external, I will choose the following. Julius Robert Mayer was so thoroughly steeped in the whole mode of ideas leading to that of the conservation of force, of the mere transmutation of one force into another, that as a rule, whenever he met a friend in the street he could not help calling to him from a distance: 'Out of nothing, nothing comes!' Visiting his friend one day — Rümelin was the friend's name — knocking at the door and opening it, these were his first words, even before greeting his friend: 'Out of nothing, nothing comes.' So deeply was this saying rooted in Mayer's consciousness.

Rümelin tells of a very interesting discussion in which he, not as yet knowing very much of the law of the conservation of force, wished to have its nature explained. Julius Robert Mayer, who came from Heilbronn — (his monument stands there) — said 'If two horses are drawing a carriage and they go for some distance, what will happen?' — 'Well', said Rümelin, 'the travelers in the carriage will arrive at Ohringen.' — 'But if they turn and go back without having done anything in Ohringen, and return to Heilbronn?' 'Well,' replied Rümelin, 'in that case the one journey has so to speak cancelled the other, so that there is apparently no result; yet there is the actual effect that the travelers came and went between Heilbronn and Ohringen.' 'No', said Mayer, 'that is only a secondary effect; it has nothing to do with what actually happened. The outcome of the expenditure of force on the part of the horses, that is something quite different. Through this expenditure of force, first the horses themselves grew hotter, secondly the axles of the carriage round which the wheels moved became hotter, and thirdly if we were to gauge with a delicate thermometer the grooves made by the wheels in the road, we should find that the warmth within them was greater than at the sides. That is the actual result. In the horses themselves, matter was also consumed through the transmutation of substance. All this is the actual effect. The other effect, that the people traveled backwards and forwards between Heilbronn and Ohringen is a secondary effect, but not the actual physical occurrence. The actual physical occurrence was the spent force of the horses, the transmutation into increased heat of the horses, the increased heat in the axles, the heat-consumption of cart-grease through friction in the wheels, the warming of the tracks on the road, and so forth.' When one measures — as Mayer then did and specified the corresponding amount — one finds that the whole of the force which the horses exerted passed without remainder into heat. The rest is all a secondary matter, a side issue.

This has of course a certain influence on our conception of things, and the ultimate result is that we must say: 'Well, we must free natural occurrences from everything that is a side issue in the sense of strict scientific thought, for side issues have nothing to do with scientific thought in the sense it is understood in the nineteenth century. The secondary effect is right outside the bounds of the events of natural science.' If, however, we ask: How does what we may call natural moral law come to expression? In what are human worth and human dignity expressed? Certainly not in the fact that the force (energy) of the horses is transmuted into the heat of the carriage axles; no, in this case the secondary effect is the chief point! Let us reflect however, how in all that is considered in natural science, this secondary effect is wholly omitted. The men of the nineteenth century, and even Kant in the eighteenth, formed their view of the origin of the Universe simply out of the principles which Julius Robert Mayer so sharply defined, when he separated out what belongs to nature alone from all that was for him merely secondary effect.

If we bear this clearly in mind, we are obliged to say: The Universe must thus be constructed from the principle we recognise as Nature-Principle; all that has taken place through Christianity, for instance, is just a secondary effect, like the fact of the persons journeying by coach from Heilbronn to Ohringen, for what they had to do there does not come into consideration in the view of Natural Science. Yet, do these two streams not cross in some way or other?

Let us suppose Rümelin had not been satisfied, but had raised the following objection — I know it does not hold good for the physicist of today, but it is applicable to the construction of a general view of the Universe — suppose the following was said: If the people who were traveling from Heilbronn to Ohringen had chosen not to do so, the horses would not have expended their force, the transmutation into heat would not have taken place, or it would have happened at a different place and under different conditions. Thus in our consideration of what happened in accordance with natural science, we are limited to that part of the event which does not lead us to the ultimate cause. The event *would never have taken place* if the travelers had not supposed they had something to do in Ohringen. Thus what natural science must regard as a side-issue enters notwithstanding into natural occurrences. Or, suppose that the travelers had something to do in Ohringen at a definite hour. Suppose the carriage axles not only became hot, but that one of them broke — in that case they could not have continued

their journey. What happened, the breaking of the axle, would then of course be explicable scientifically, but what occurred through this natural phenomenon — namely, that something planned could not be carried out — might, as can easily be imagined, have tremendously far-reaching consequences, leading moreover to other natural processes, which would in their turn have led to further consequences.

Thus we see that even when one stands on purely logical grounds very significant and grave questions arise. We must at once say, that these cannot be answered by the conception of the Universe arising from the hypothesis of our modern training; they cannot be answered without Spiritual Science. They can in no wise be answered without it; for before the tendency to the natural-scientific mode of thought arose, which was first brought to such exactness by Julius Robert Mayer, there was not that sharp line of division between the natural-scientific mode of thought and moral thought. If we consider the twelfth or thirteenth century, we find that what people had then to say of the moral order and the physical order always harmonised. Today people no longer read seriously; but if you read such works — I might say, there are not many things left from olden times which have come down to our days quite unadulterated-but if you take works which are like stragglers of the old cosmic conceptions, you will discover many things that prove how in earlier times the Moral was carried into the Physical, and the Physical raised to the Moral. Read one of these — now already somewhat falsified yet still fairly readable — read one of the writings of Basil Valentine. When you read there about metals, planets, medicinal drugs, in almost every line you will come across adjectives applied to the metals — good, bad, sagacious metals, and the like; which show that even in this domain some moral thinking was introduced. That of course could not be done today. Abstraction has gone so far that natural phenomena have been severed from all the secondary effects, as we may see in Julius Robert Mayer; one cannot say that it was the kindness of the horses' feet which moved them to use up the axle-grease by the warmth produced by their movement! It is not possible in this scientific connection to bring in any kind of moral category. There are two domains, the natural and the moral, and these stand quite definitely side by side. If the world-happenings were as shown by that kind of presentation, man could not exist at all in our world, he would not be there — for what is the reason for the present physical form of man?

When I speak here of the physical form of man, I must ask you to take the word 'form' seriously. The natural philosophers of today do not take the expression 'human form' seriously. What do they do? Like Huxley and others, they count the bones of man and of the higher animals, and from the number of these they draw the conclusion that Man is only a more highly evolved stage of the animal. Or they count the muscles and so, forth. We have repeatedly had to point out that the essential point is that the line of the animal spine is horizontal, while the human spine is vertical; and although certain animals raise themselves, the position with them is not characteristic, what is characteristic of the animal is the horizontal line of the spine. Upon this depends the whole formation. Thus I ask you to take seriously what I wish to express by the word 'form'.

This *form* of man; where must we look for its origin, its primary physical origin, in a spiritual way in the Universe? I have already touched on this point in these lectures, I have pointed to the starry heavens which move — whether apparently or actually is immaterial at the moment — round the Earth; the Sun also. Thus the Sun takes the same way; but if we take into consideration what we now know, namely that the Sun shifts its point of departure every Spring, remaining behind a little in relation to the stars, we come to a specially important fact. The change in position of the Vernal Point can be seen in the fact that the constellation in the following year rises earlier than the Sun and sets earlier, showing us that the Sun remains behind. I have pointed out that even the old Egyptians knew that if the circle is divided into 360 degrees, the Sun remains one day behind in 72 years. That is, in 360 times 72 years, or 25,920 years, it remains the whole circle behind, and returns to the star from which it started 25,920 years before.

Thus we have the fact that in the Universe the stars travel round, and the Sun goes round — I will not go into the question as to whether this revolution is only apparent or not, the important point under consideration is that the Sun travels more slowly, remaining behind one degree of the cosmic circle in 72 years; and 72 years, as I have already indicated, is the normal maximum duration of a man's life. Man lives 72 years, exactly the period the Sun remains one degree behind the other stars.

We have lost the right feeling for these things. Even as late as in the Hebraic Mysteries, the teacher still impressed very strongly upon his scholars that it is Jehovah who brings it about that the sun lingers behind the stars and, with the force which the Sun thus kept back, He fashioned the human form, which is His earthly

image. Thus, mark well, the stars run their course quickly, the Sun more slowly, and so a slight difference arises which, according to these ancient Mysteries, was that which produced the human form. Man is born out of time, he is so born that he owes his existence to the difference in velocity between the cosmic day of the stars and the cosmic day of the Sun. In modern parlance we should say: If the Sun were not in the Universe as it is, if it were just a star like other stars, having the same velocity as other stars, what would be the consequence? It would be that the Luciferic powers alone would rule. That this is not so, that man is able to withhold himself from the Luciferic powers with the whole of his being, is due to the circumstance that the Sun does not share in the velocity of the stars but lags behind them, not developing the Luciferic velocity but the velocity of Jehovah. Again, if there were only the Sun velocity and not that of the stars, man would not be able to run on in front of the rest of his development with his mental powers, as he does at present. Such a condition would not fit well into his whole evolution. In our time this is very striking. If we have studied Spiritual Science seriously, we know that a man of 36, for instance, understands things he could not at 25. Experience is necessary for the comprehension of certain things. This is not admitted today, for a man of 25 feels himself complete. He is only complete as regards mental powers, but not in experience, for experience is gained more slowly than understanding. If this were taken into account, we should not find that the young people of today have already formed their point of view, for they would know that they could not do so before acquiring a certain amount of experience. Understanding travels with the stars, experience with the Sun. Assuming that human life is 72 years (unless events of Nature intervene causing Man to die older or younger), we say that it lasts the time the Sun takes to retrograde one degree. Why is this? The reason lies in a certain fine adjustment in the Cosmos. Our preliminary study obliges me to ask you to follow me for a little while into this domain.

If we consider a lunar eclipse occurring in a certain year, then there will be a certain date when the eclipse can occur. The lunar eclipse occurs on the same date about every 18 years, and in the same constellation. There is a periodical rhythm in the lunar eclipse, a rhythm of 18 years. That is just a quarter of a cosmic day and just a quarter of a man's life. Man, if I may so express it, endures four such periods of darkness. Why? Because in the Universe everything is in numerical harmony. On the average, Man has in accordance with the rhythmic activity of his heart, not only 72 years of life, but 72 pulse beats, and approximately 18 respirations — again the quarter — in the minute. This numerical accord is expressed in the Universe by the rhythm between the 18 years — the Chaldean Saros period, so-called because the Chaldeans first discovered it — and the Solar period; and it is the same rhythm as is also to be found in man in the inner mobility between his respiration and his pulse-beats. Plato said, not without reason: 'God geometrises, arithmetises' ... Thus our 72 years of life, to which is co-ordinated also our heart and pulse activity, goes through the Saros period four times; because in our heart and pulse activity we have our breathing activity, as it were, four times over. Our whole human organism is constructed on the lines of the Universe, but we only see into its significance when we bear in mind another connection.

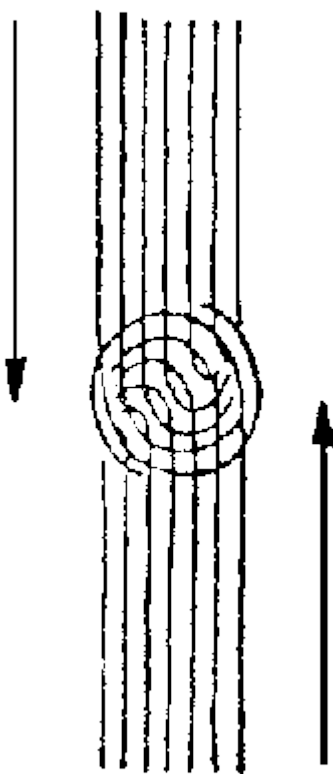
As I said in one of the foregoing lectures, we only gauge correctly the movement of the Moon, its revolution round its axis, when we connect its revolution not with the day of the Sun, but with the day of the stars. If we have the solar time in view, we must consider a shorter time, 27.5 days for the revolution of the lunar day. I have told you that the Moon's revolution is not such as quite to accord with that of the Sun, but with the time of the stars. Hence we only understand our lunar movement aright when we do not think of it as belonging to the solar movement, but to that of the stars. In a certain sense therefore, the solar movement is outside the system to which the Moon and stars belong. Thus we are so situated in the Universe that on the one hand we are co-ordinated to the stellar-lunar system, and on the other to the solar movement.

Here we see the gradual divergence of the solar and the stellar astronomy. As we have seen, if we have one astronomy only, everything falls into confusion. We can only reach a right understanding if, not limited to one astronomy, we say: On the one hand we have the starry system which, in a certain respect, contains within it the Moon; and on the other, the system to which the Sun belongs. They mutually interpenetrate. They work together. But we are wrong if we apply the same law to the two.

When we realise that we have two quite different astronomies, we shall say: The cosmic happenings in which we are involved have two origins, but we are so placed that these two streams flow together in us. They fuse in us human beings. What is it then that takes place in us? Suppose that only what is admitted by the natural scientist took place in us — all sorts of things would take place in the human organism, movements of substances and so forth; these would extend over the whole organism, also to the brain and consequently to the

senses. What then would the consequence be if the whole transmutation of substances which goes on in the human organism and which is inserted into the Cosmos as I have explained — if this metabolism were to extend to the *brain*? We should never be able to have the consciousness that we ourselves think. Oxygen, iron and other substances, carbon and so forth — of these we should say, in their mutual relations, '*they think in us*'. But as a matter of fact we are not conscious of any such thing. There is no question of its being in our consciousness. What we have as a fact of consciousness is the content of our soul-life. That can exist under no other hypothesis than that the whole of this quite material happening is demolished, is annihilated, and that in us there actually is no conservation of force and substance, but room is made by the annihilation of substance, for the development of the thought life. In fact, Man is the one arena in which an actual *annihilation of substance* takes Place. We shall never realise it so long as we are only conscious of what is outside ourselves.

Now, if we start from the assumption that after 72 years the Sun lags one degree behind in the celestial sphere, that there is this difference of velocity between the movement of the stars and that of the Sun (which difference works in us, converges, as it were, in us); and if we then picture to ourselves how the formation of our head comes from the starry heavens, and how when we, according to a very beautiful saying, first 'see the light', we become involved in the Sun's movement, then we must say: There is in us a continual tendency to work with a lesser velocity over against the more rapid velocity of the stars. The action of the stars in us is opposed. What is the effect of this opposition? It is the destruction of what the stars bring about in us materially, its destruction; thus, the destruction of the purely material law comes about through the solar activity. Hence we may say: In our progress through the world as human beings, if we kept pace, as it were, with the stars, we should accompany them in such a way as to be subject to the material law of the Universe. But this we are not. The solar laws oppose it, they hold us back. There is something within us which holds us back. The resultant of the two activities in us could be exactly calculated, for instance, in the following case. (The calculation cannot be followed up here, first because it would take too long and secondly because you would not be able to follow it). Here, let us say, a certain movement occurs (arrow pointing downwards), i.e. a flow takes place with a certain velocity; and the stream then fuses with another stream — it must be assumed that the other flow is going not in the same



but in the opposite direction (arrow upwards). The two streams flow therefore into one another. Or imagine a wind whirling with a certain velocity from above downwards, and another from below upwards, and they whirl into one another. If we take the difference of velocity between the downward and the upward current, relating the latter to the former in such a way that a difference in velocity results bearing the same relationship as the difference in velocity between the stellar time and the solar time, then through the rotation a condensation arises which receives its own distinct form. One whirls downwards, and because the other whirls upwards driving with a greater velocity, the lessee. velocity would be that driving downwards, which gives here (see diagram) through the collision, a condensation, a certain figure. This figure, disregarding imperfections, is a silhouette of the human heart.

Thus, through the meeting of the Lucifer stream and the Jehovah stream, it is possible to construct exactly the figure of the human heart. It is constructed simply out of the revelations of the Universe. It is absolutely true; the Sun-movement is an expression of a slower movement which meets a quicker movement, and we are so inserted into the two movements that the silhouette of our heart arises; and on to it the rest of the human form is fitted. We see from this what Mysteries are actually hidden in the Cosmos, for as soon as we admit we have two astronomies, which work together in their results — what is the result? The human heart. The whole outlook of modern natural science is based on the fact that it does not distinguish these two streams from one another. This brings upon it the tragic fate, that the harmonious working is split apart, leaving on the one hand, the events in Nature, as reasoned by Julius Robert Mayer; and on the other hand, the ‘secondary results’, because people are unable to unite cosmically in thought what works together from these two streams. Thus for man's thinking the world falls asunder in two extremes.

Here lies the cosmic aspect of something tremendously significant in regard to the understanding of Man and the Universe. Unless man can renew, on that basis of thought which we are giving today, the knowledge contained in the ancient Mysteries at the time when man was awaiting Christianity — as I have described in the book, *Christianity as Mystical Fact* — unless we can bring this ancient knowledge to life in a present form, as must be done, all knowledge remains an illusion; for that which comes to expression with such clarity in the human heart is to be found everywhere. Everywhere the events that happen are explainable through the union of two streams, arising from different sources.

In the insertion of the Mystery of Golgotha into the evolution of our Earth, we have to do with an Event of a totally different nature from all the rest of the happenings of Earth-evolution; and this we shall never understand unless we begin by learning to understand the Cosmos itself.

What I have said today is intended as a preparation or groundwork on which we shall be able to build up in our lectures of to-morrow and the day after.

LECTURE FIFTEEN

In the foregoing studies we have indicated how necessary it is to study Man in his entirety if we would see how exact a copy he is in all his nature of the Universe as a whole. It is specially important to receive this knowledge not only into our intellect, but also into our feeling and will; for only by regarding Man in his totality as born out of the whole Universe, can a deeper understanding be gained for that which Christianity wishes to be for the world. It might easily be objected that if this is so, a complicated understanding of the details of the Universe and of Man is demanded of modern humanity in order that Man should become complete Man in his consciousness. Yet just reflect that this demand, which now approaches humanity as a cardinal demand, is not peculiar to Spiritual Science. In order to indicate exactly what I mean, let me first put the question: What demand did Christianity bring when it first came into the world? In reality it claimed an understanding of the Universe which originally belonged to the ancient heathen conceptions, but which has in course of time been completely forgotten. Just consider what has been gradually lost to Man in course of time of the fundamental views and characteristics of Christianity. Christianity first appeared in such a way that it could only be understood by comprehending e.g. the Trinity: The Nature of God the Father, God the Son — that is, Jesus Christ — and the Spirit. In the sense in which Christianity understood these three aspects of the Divine Spiritual, the understanding of them demanded no less than does the understanding of such things as are given by Spiritual Science today. Only all that leads to the comprehension of this idea of Father, Son and Spirit has been gradually eliminated; it has been thrown out of the intelligible and become empty words; empty husks of words have alone been retained. For centuries man has had these empty word-husks. This has gone so far that, after having first dogmatically rejected them, people have begun to ridicule them. The best of men have ridiculed these empty husks. Ridicule has been poured upon them. ‘Dogmatic Theology’, it is said, ‘claims that One is Three and Three One!’ it is indeed a terrible delusion, it is sheer deception to believe that the Christian movement has ever demanded less understanding, less self-sacrificing knowledge, than that demanded by modern Spiritual Science — and demanded by it in order to regain Christianity. The most important and basic facts have been cast out of Christianity, and if we leave out of account that these live on in the different confessions as words, we can ask: What really remains to man of the fundamental ideas of Christ Himself? How does modern man discriminate between Christ and the Universal Cosmic God who can be met with in the ideas of Jahveh or Jehovah? I have drawn attention to the fact that even theologians such as Harnack do not discriminate. How many people today are clear as to what is to be understood by the Spirit? People have become such ‘abstractlings’, satisfied with the mere empty husks of words; either they remain in the churches and are satisfied; or if they are — as they call it — ‘enlightened’, they turn all to ridicule. What is given in empty husks of words can never have the power to bring light to the individual activities of human knowledge.

Only reflect how far we have actually gone in this direction. All that was comprised in the knowledge of ancient Greece was at the same time a healing principle. The healer was a priest and at the same time the teacher of the people. That the teacher and priest was also a healer presupposes that something unhealthy was present in the whole process of civilisation; otherwise there would be no ground for speaking of a healer. They spoke of the healer because from an instinctive knowledge they had still an understanding of the whole cosmic process, more comprehensive and intense than we possess today. Today man pictures the cosmic process as running its course in such a way that What comes later is always the effect of what was earlier; but this is not so in reality. The older instinctive knowledge was aware that this was not so. Today men imagine, especially those who speak of progress in the abstract, that evolution is bound continually to ascend. We find this notion of an ascending evolution among the superficial philosophers of modern times. A man who is simply carried along by the general prejudices of the time, such as Wilhelm Wundt, the non-philosopher, who became the philosopher of the hour for many, also spoke as an alleged philosopher of such “Universal Progress”, without the slightest knowledge of what really lies in the actual stream of human development. We must realise that in the real stream of human development there is always a tendency to degenerate. There is not a tendency towards progress there, least of all in history. There is a continual tendency towards degeneration, and only because what we call teaching, or knowledge, works steadily against it, is that raised up which would otherwise be drawn down into the depths. Only in this way do we have progress.

Consider from this standpoint how the matter stands with the child. The child is born. People speak of

heredity, but we inherit only what would lead to decline. If the child were not educated by his whole environment and later by school and by life, he would degenerate. Education is a preservative from degeneration, it brings healing. The old instinctive knowledge of Man would still regard as a healing process everything connected with knowledge, education or priesthood. In olden times the office of the doctor could not be separated from that of the priest, they were one and the same. Modern evolution has separated natural science from the science of soul and spirit, as I explained in yesterday's lecture. Thus man leaves to medical science the healing of all that which, according to Julius Robert Mayer, has nothing to do with human aims, but is concerned only with the use of the forces of the horses and their transmutation to heat in the horses, in the wagon-axles, in the streets on which the wheels ran, and so forth. This is, roughly speaking, left to the physician; and people like Rubner in Berlin, who is only a representative of this mode of thought, calculate what is necessary to human life almost as though Man were a kind of complicated stove.

But now draw the social-ethical conclusion of such a conception, and recognise that if of all that takes place in the transmutation of force the purposes and aims of Man are only a secondary effect, then we are confronted with the possibility of believing that the world could get on without these secondary effects. As a matter of fact that is really the secret belief of modern man, that the real consists only of the physical, and everything else is a side-stream, a secondary effect.

In face of such a view it would be only consistent to reject Christianity, as the materialists of the middle of the nineteenth century did. They actually carried out to its logical conclusion the materialistic cosmic conception, by saying: If naturalism is correct, then there is nothing for it but to ridicule the idea of any difference between a transgressor and a good man—for of course, just the same amount of force is transmuted into heat in the one as in the other! The questions that flash through the world at the present time are really often questions of honesty, courage and consistency. At a time when man certainly does not possess this honesty in respect of the outer things of life, it is indeed not surprising to find that it is not there in respect of these cardinal questions.

Thus it comes about that modern humanity still talks of Christ, without really knowing that He must be distinguished from the Universal God underlying all nature. If the Christ-Concept has been gradually changed into the simple God-concept, that signifies a retrogression of humanity, back to *before* the Mystery of Golgotha. In order to understand Christianity rightly it is necessary to take this principle of degeneration seriously, and place in opposition to it the necessity of working out of something quite different from what bears the germ of degeneration within it. The attention of present-day man must be drawn to the fact that at that time in the course of Earthly events when the Earth moved — together with man, of course — through the Mystery of Golgotha, something took place as a happening on Earth which had significance not merely for humanity, but for the entire Earth-life.

To comprehend this, Nature and Spirit must of course be studied with much greater earnestness than lies in the inclination of modern humanity. In order to explain this, let me point back to something which lived in the consciousness of man, perhaps up to the eighth century before Christ. Man did not then perceive himself as an isolated being, as he does today. Today he feels himself as a being enclosed in his skin, but up to the seventh or eighth century BC. he felt himself to be a member of the whole Universe, taking part in the events of the whole Universe. Grotesque as it may seem today, it is a fact that in those olden times man did not feel his head so strongly shut off by his skull, he felt that that which lived in his head extended into the Cosmos, and belonged to the whole starry heaven. Strange as it seems today, he felt himself in the sphere of the stars, for he felt his head in living connection with them. Thus he said to himself: 'When the night-sky arches over me, it is really *I myself*, who live there in living communion of my head with the stars.' He said: 'I follow the course of time further, when after the night the day appears. Then the stars which rose on the one side set on the other, and in their place the Sun rises. The configuration of the stars then no longer works in my head, for the Sun takes the place of the starry heavens and my eyes it is that are co-ordinated with the Sun.' And because he vividly felt: 'My eyes are co-ordinated with the Sun when I am busy on Earth during the day,' he said to himself: 'Just as now there is an earthly existence and my eyes are co-ordinated to the Sun, so in the existence preceding the Earth (we call it the Moon existence) my whole head was a kind of eye; not as now, perceiving the objects in a twofold way, but, looking out into the Cosmos there were within me, in my brain, as it were, as many little eyes as there are stars. Out of these little eyes has grown all that lives now in my brain; and my sense-eyes are but later products, co-

ordinated to the Sun as was my brain to the starry heavens. Therefore my brain is a later product of evolution of an eye, or really of many separate eyes, as many in number as the stars shining out there in the night. Thus my brain has grown out of a sense; and what is now in Earth-existence, my eye, whereby I am in communication with my Earth-environment, will be an inner organ, as is now in my brain, when the Earth has been replaced by another planet (which as you knew we call the Jupiter-condition). What is now on my outer surface will draw into my inner being. People will then look different. What they now have as corresponding with their environment will form an inner organ in future times.' Ancient humanity felt this instinctively and said: 'Light penetrates; through the eye of my senses, but in my inner being I preserve the light of olden times. It works in me as thought. Thought was a sense-perception before the Earth became Earth, when it was an earlier planet; and my sense-perception will be thought in the future.' In ancient times man perceived all this as wisdom, which he felt 'instinctively' as we should say today. The ancients did not throw about the word 'instinctive' as is done today, they said: 'It is the wisdom which the Gods in heaven have brought down to us on Earth.' of what arose in them instinctively concerning the past, present and future they said: 'This was brought to us by the Immortals.' This they represented to themselves in *Pictures*. What does the Isis-picture tell us? 'I am the All; I am the Past, the Present and the Future. My Veil has no mortal ever lifted.' The modern interpretation of this is really in truth a strange one! People today think in materialistic terms about a saying containing the term 'mortal'. They do not think, in the case of this saying of Isis: 'I am the Past, I am the Present, I am the Future. My veil hath no *Mortal* yet lifted,' but they think of it as: 'I am the Past, the Present and the Future; my veil hath no *man* yet lifted.' The people of today do not reflect how on the other hand they hold themselves to be immortal and that therefore 'My veil hath no mortal ever lifted' cannot be regarded as a final sentence. Novalis said: 'Well then, we must become immortal, so that we may lift the veil of Isis.'

Let us reflect on the underlying thought brought forward by modern materialists. It gives them pleasure to think: 'I am the All. I am the Past, the Present and the Future. My veil no man hath ever raised.' For they are thus spared the effort of lifting it, and their philosophers can teach that man has now reached the boundaries of knowledge. In reality they mean that man is too indolent to tread the path of knowledge. They do not like to say this, so they say that man has reached the boundaries of knowledge.

In our age, which wants to be independent of authority, these things are accepted, but they must not be carried into the future, if man is not to fall into decadence. It should not be overlooked that no one has the right to call himself a Christian who believes only in a general progress and does not realise that if the Earth had been left to itself since the Mystery of Golgotha, it would have fallen into decadence. Hence it is necessary for us to oppose to this decadence something which we *cannot* obtain from the Earth, nor from that from which the Earth is derived — the Father-God — but which must be obtained from God the Son, and must be injected into the continuous evolution of mankind. It is an absolute deviation of man from his task of today if he continues unwilling to admit that the Universe is to be brought into relation to the Christ-Event. Think what it really means when, though stormed at by Catholic and Evangelical confessions. Spiritual Science asserts that the Christ-concept and the Cosmos-concept must be united, while against that it is always said: 'Spiritual Science has no idea that Christ is only to be understood in an ethical sense, as something inserted only into the moral order of the world.' If man holds the moral order of the world as a secondary effect of the transmutation of forces, then the Christ-concept inserted only into the moral order of the world, also appears as a mere secondary effect in the cosmic system.

We have spoken of one thing whereto the old instinctive knowledge of mankind pointed, namely that the human brain stands in relation to the starry sphere, and that the human eyes are in a certain way co-ordinated with the Sun-sphere. Going back into earlier periods, when man still possessed a qualitative knowledge of astronomy and of the earthly elements, we see that Light was brought into relation with what is nearest our Earth, with Air. With their instinctive knowledge, the ancients could not think of Light without Air. Modern thinkers with their abstract knowledge do not bring what they explain as Light into relation with Air. Certainly they describe it in a wonderful way — as a vibratory movement of the ether; but in relation to Air, the farthest they go is to regard the Air as a medium through which the Light passes. It is really most remarkable how little people reflect upon what is imposed upon them! Earth: Infinite Space: Stars. Among these stars are some whose Light needs millions of years to reach the Earth. Night falls. Here is a star whose Light needs a shorter time to reach the Earth. Just imagine for a moment: What have we in the rays of its Light? Certainly we do not see the star itself when we look in the direction of the Light-rays. The Light-ray which meets our eye, according to this

theory, comes from something millions of years back; it may even have perished long ago, but its Light is still traveling hither. Nothing is told us of what is really out there in the Cosmos. All we are told is how channels of Light are approaching, which may perhaps lead back to some still existing star but which may also lead to some star no longer there.

We must make ourselves acquainted with the thought of how for us the Light-phenomena as such make themselves apparent in the phenomenon of Air; for although the Light passes through the apparently airless space, by us it is not seen in airless space, but in the Air-filled space, for only in such can we exist. Thus for us Light and Air are experienced together. In this way we can go more deeply into the human constitution; we can go a step further. In the human head we can pass from the eyes to the nose. The nose (and oriental philosophy knows a great deal about this), the nose is the organ through which one breathes in and breathes out. The eye is the receptive organ for Light. The nose and eye are divided. The nose is adapted to the Air, and all that is adapted to the Air extends to the world of the planets. The Sun makes the beginning in working in our earthly part; but the rest of the planets work on the rest of our constitution; and as we come down from the starry world into that of the Sun and planets we arrive, in the case of man, as it were, at the nose. Then we come down quite to the earthly, passing from the nose to the mouth, to the organ of taste, and, taking up the substances of the Earth through that organ, we descend from the planetary into the Earth-world. We have the rest of man as an appendage; the head as appendage of the eyes, the breast as appendage of the nose, and all the rest of man, the limb-man, the metabolic man as appendage of the organ of taste. We have now apportioned man, taking him in his totality, to the starry world, the solar and planetary world and the Earth-world. We have placed him into the whole Universe and when we look at his brain — inwardly, not outwardly; not by physical anatomy, but by inner knowledge — we see in the human head, inasmuch as it is the bearer of the brain, a direct copy of the starry world. We see in all that extends from the nose to the lungs, a copy of the planetary system with the Sun. If we then consider the remainder, we see that part of man which is Earth-bound, as e.g. are animals. In this way only do we arrive at the true parallel between man and the rest of the world. Thus should man be understood, even in detail.

Consider for a moment the circulation of the blood. The blood, transmuted by the outer air, enters the left auricle. passes into the left ventricle, and from thence branches off through the aorta into the organism. We can say: Blood passes from the lungs to the heart, thence into the rest of the organism, but branching off also to the head. The blood however in passing through the organism takes up the nourishment. And into this is introduced all that is dependent on the Earth. All that the digestive apparatus introduces into the circulation of the blood is earthly. What is introduced through the breathing, when we bring oxygen into the blood-course, is planetary. And then we have the blood-circulation that goes to the head, which includes all that composes the head. Just as the circulatory course of the lungs with its absorption of oxygen, and giving out of carbonic acid, belongs to the planetary system, just as what is introduced through the digestive apparatus belongs to the Earth, so that part of the circulatory course that branches off above, belongs to the starry world. It is, as it were, drawn away from the aorta and then streams back and unites with the blood streaming back from the rest of the organism, so that they stream conjointly back to the heart. That which branches off above says, as it were, to the whole of the rest of the circulatory course: 'I do not share either in the oxygenating process nor in the digestive process, but I separate myself out. I invert myself upwards.' That it is that belongs to the starry world. And the nervous system might be followed up in the same way.

One arrives at no perception of man by thinking that he can be studied from his physical aspect only. In so doing we only find in the cranium that pulp described by our physical anatomy! What it describes is simply non-existent. It is in reality the confluence of forces of the starry heavens. To describe the physical brain by itself, is like describing a rose by itself. That has no sense, for a rose is no entity for itself. It cannot be dissociated from its bush. It is nothing apart from its bush. So too, the human brain is nothing apart from the starry heavens.

Let us however here recall the true nature of the Sun. Again and again I have emphasised how astonished the physicists would be if they could fit out an airship (it actually forms part of their ideal to do so), and could journey to the Sun, imagining they would find there a glowing ball of gas. They would not find this, but a suction-sphere, trying to absorb everything possible into itself, really an empty space, nay even less than empty, a negation of matter. Within the circumference of the Sun there is nothing comparable to our matter. It is not merely empty, but less than empty; it is blank, just like a hole, in comparison with the rest of matter. It is really

important that one should not, in these days, begin to speculate on things of the world, without any accord with reality, but fill oneself with the spirit of reality. I have recently said a good deal on the Theory of Relativity. You will remember what I brought forward regarding the Einstein box by means of which the theory of gravity is to be overcome. Another affirmation of Einstein's is that even the dimension of a body is merely relative, and depends on the rapidity of movement. Thus, according to the Einstein theory, if a man moved through cosmic space with a certain velocity, he would not retain his bulk from front to back, but would become as thin as a sheet of paper. This is discussed in all seriousness. Such dwelling in thoughts foreign to reality forms the 'science' of today. And it is the opposite pole to what we have on the other hand as faith.

The physician has been relegated to the purely physical, the priest to what is purely of the soul. As for the Spiritual, it is abolished. But when it comes to considering everything outside the physical as a side-issue — horses, coach, *these* are real to the physical senses; and the forces of the horses, these are transmuted into heat, heat of the horses, heat of the axles, and heat of the furrows of the road; and for the rest, well, we cannot even call the rest a 'fifth wheel' of the wagon, for it is less than that, it is a mere side-issue, a secondary effect. As regards the priest, one cannot even say that he is the fifth wheel of the wagon in the modern conception — for what does he achieve if all the 'rest' is a side-issue? When physicians such as Julius Robert Mayer make philosophy, they make physics; and when the adherents of soul-substance, or whatever it is, make philosophy, it becomes abstract concepts; and the two world-streams flow on side by side quite foreign to one another, the materialistic physician of the middle of the nineteenth century and the preaching pastor; they have really neither understood nor even paid attention to one another, at most perhaps they have contended politically. A time has assuredly now come in which there is but little honesty or consistency, and this state of things must be seriously combated and overcome.

We have not only to combat ill-will, but what perhaps has also to be taken into account, namely all kinds of stupidity and ignorance. That is how things are. — Let me draw your attention especially to the fact that from a certain motive I intend at Whitsun to give three lectures on the philosophy of Thomas Aquinas. [*See *The Redemption of Thinking*. English translation of these lectures by A. P. Shepherd and Mildred Robertson Nicoll. Published by Hodder and Stoughton (1956).] I do not know whether our opponents will deny us the right to study Thomas Aquinas here. As you know, by an order of Pope Leo XIII, the doctrine of Thomas Aquinas was declared the official philosophy of the Roman Catholic Church and I wonder whether this, which we are about to study here, will be described as an unlawful propaganda issuing from Dornach! We will wait and see. Let the wind whistle from whatever quarter, we will await it. But perhaps it is well that we should once meet all the talk that comes from that particular quarter with a serious study of the doctrine of Thomas Aquinas.

LECTURE SIXTEEN

When we try to ascertain man's position in the Universe as a whole, it is a question of turning our attention not only to Space but to Time. Anyone who follows the history of human evolution at all, will find that it is a peculiarity of the Oriental conception of the Universe to set Space in the foreground, not leaving Time wholly disregarded, but placing everything pertaining to Space in the foreground. The peculiarity of the Western conception of the Universe is to reckon to a very special degree with Time, and it is precisely this regard for the temporal in human evolution and the Universe which must have primary consideration in a right view of the Christ-Force. To recognise the full significance of the Christ-Force in human evolution on Earth, we must be able to place Man himself correctly in the whole Universe, in a temporal sense. The customary belief in the law of the conservation of force, and especially that of the conservation of substance, hinders this. The law of the conservation of force is one which would so place Man in the Universe that he stands there as a mere product of nature. Attempts have been made to discover the procedure of the transformation through combustion of what man takes in as nourishment, and to find out how the heat of combustion is set up and how other forces arise in man as transformed forces of the food. Such attempts have already been made in modern times by students. They are like thoughts which find expression somewhat in the following way. A man sees a building, he hears that it is a Bank, and endeavours by some method to calculate how much money is put into the Bank and how much taken out; and finding that the amounts are the same, draws the conclusion that the money has either transformed itself in there or has remained the same, but that there are no officials there in the Bank at all. This is approximately the logic of the thought that whatever a man has eaten may be found again in the transformed forces of his calefaction, his activity. Here too courage is lacking actually to put to the test the depth of thought underlying these modern principles. One might indeed arrive at many things by *testing* what we find in modern science; one has only to test its logic and more especially its reality.

Now the point is that on account of a mass of unreality and of illogical methods of thought, man is placed in the dilemma in which, as I have already pointed out, on the one hand stand ideals, as secondary effects, and on the other, natural occurrences; and we can find no means of building a bridge between them. At most an attempt is made today by chatterers in the sphere of philosophy to talk of natural occurrences in a way which flatters the primitive thought of man; this kind of talk has no desire to go into anything concrete, but prefers to acquiesce in such nonsense as that of Eucken or Bergson. What is of real consequence is, first of all, that one should ask oneself: What it is that man bears within him out of the whole compass of the Universe? What enables him as a member of the Universe so to work with his Ego, that one can see that what results from his activity is his own? Now of all things of the Universe, of all properties of being in the Universe, one such property is easier to study than others, if one only sets aside the prejudices of modern science, and that is the element of *heat*.

Certainly it must be said in the first place that even the animal world, and perhaps to some extent the plant world, have heat of their own; but the heat of the higher animal world and of man can be distinguished from other kinds of individual heat. And it is necessary to enquire now into what may be called the heat peculiar to man. For in this particular heat (leaving aside for the moment that of the animal, although what I am saying does not contradict the facts in the animal world; but it would lead us too far to include it in our present observations), in what man possesses as his own heat — in this he has his inmost corporeality, his inmost bodily field of activity. Our attention is not drawn to this, only because it escapes ordinary observation that the element of *soul and spirit* dwelling in man finds its immediate continuation in the effect it has on the heat within him. In speaking of man's *bodily* nature pure and simple, one should really speak of his heat-body. When we see a man before us, we are also confronted by an enclosed heat-space, which is at a higher temperature than its environment. In this increased temperature lives the soul and spirit element of man, and the soul and spirit in him is indirectly conveyed by means of the heat, to his other organs. In this way too, man's Will comes into existence.

The Will comes into being through the fact that in the first instance man's heat is acted upon, then his lung-organisation, thence his fluid-organisation, and thence only what is mineral or solid in his organism. Thus the human organisation must be represented as follows: The first part to be acted upon is the heat, then through heat the air is worked upon; thence an influence acts upon the water — the fluid-organism — and thence upon the solid organisation. (I have drawn attention to the fact that the solid part of man's organisation is the smallest, for he is more than 75% water-body.) This fact, that we really live and move in our heat element, is one of the

physiological facts which we must keep carefully in mind, for we must not simply regard what forms an isolated heat-space as though it were just a space of pure uniform heat, having a higher temperature than the environment — no, we must regard it as having *differentiated* parts, warmer and colder. Just as our liver, lungs and so forth, differ from each other, so do the parts of our heat-organism; and this differentiation is continually changing inwardly. It is a constantly moving differentiation, and that which in the first instance unites with the activity of the soul and spirit has its being in this inner heat-organisation.

Philosophers today say that the effect of the soul and spirit upon the body cannot be perceived, because they imagine an arm as a sort of solid lever appliance; and of course they cannot see how the activity of the soul and spirit, which is conceived of as abstractly as possible, is to be transmitted to this solid lever-appliance. But one need only fix one's attention on the transition, and we find there that which has been organised for man out of the whole Universe. If we really study human *thought*, we find that the thought which asserts itself in our head has very much to do with this inner work that goes on within the heat-relationships. (This is not quite exactly spoken, but the inaccuracy can perhaps only be corrected in the course of time. We must try to get a complete picture, therefore I will begin with a more cursory description.) If we observe this inter-working of thoughts in the heat-space, in the isolated heat-space, it is evident that something like a co-operation of thought-activity and heat-activity takes place. In what does this consist? Here we come to something which demands very careful consideration.

Taking first the whole of the rest of man, and then his head, we can of course, trace a transmutation of matter (metabolism) from the former to the latter; and the fact that ultimately the head has to do with thought—that we perceive as a direct experience. Yet what really happens? We will lead up to this gradually by way of appropriate imagery. Let us suppose we have some fluid substance; we bring it to boiling point, then it evaporates, and changes into a more rarefied substance. This same process takes place far more intensely with human thought. All that plays its part as transmutation of substances in the human head, brings it about that all substance falls away like a sediment, it is precipitated, and nothing remains of it but the mere *picture*.

I will now use another example. Suppose you have a vessel containing a solution. This you cool down, which is again a heat-process. A sediment collects below, and above remains finer liquid. This is also the case with the human head; only here no substance whatever is collected above, nothing but pictures, all matter is expelled. This is the activity of the human head; it forms what are mere pictures, and expels the matter.

This process, as a matter of fact, takes place in everything that may be called the transition to pure thinking. All the material substance which has co-operated in the human inner life falls back into the organism, and pictures alone remain. It is a fact that when we rise to pure thought, we live in pictures. Our soul lives in pictures; and these pictures are the remains of all that has gone before. Not the substance, but the pictures remain.

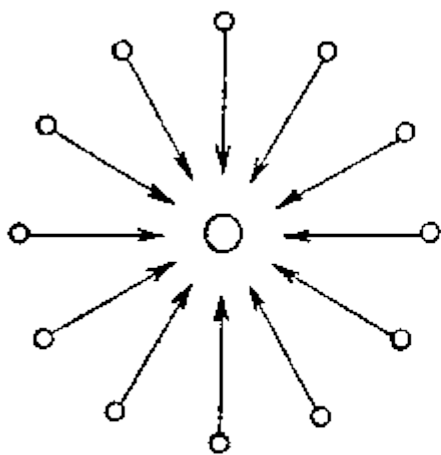
What has just been presented can be followed into the thoughts themselves, for this process only takes place at the moment when thoughts change into mere pictures. At first thoughts live, as it were, *embodied*. They are permeated by substance; but as *pictures* they separate themselves out from this substance. If however, we go to work in a truly spiritually scientific way, we can quite easily distinguish pure thought, sense-free thought that has separated itself out from the material process, from all thoughts belonging to what — have called in these lectures the “instinctive wisdom of the ancients.”

This instinctive wisdom of the ancients, as we learn it today, bears in it, quite literally and exactly, the character of not being brought to such filtration of thought that all material substance fell away. Such falling away of all matter is a result of human development. Although not observed by external physiology, it is a fact that virtually — of course virtually and approximately — the thoughts of earthly humanity *before* the Mystery of Golgotha were always united with matter, and that at the time of the intervention of the Mystery of Golgotha in Earth-life, humanity had arrived at the point in evolution of being able to dissociate itself from matter in the inner process of thought; matter-free thought became possible.

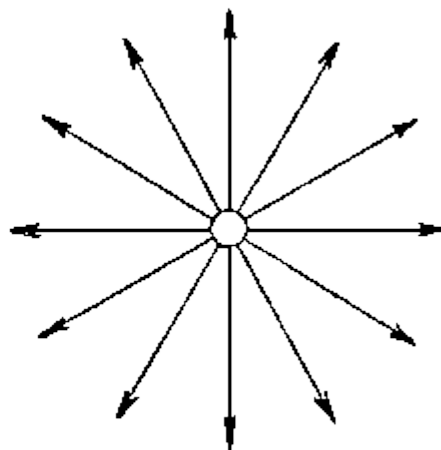
This is not to be regarded as unimportant! It is indeed of the utmost importance that we should observe this development in earthly life — that man in his evolution has become free from the embodiment of thoughts; that they have changed to pure pictures. Thus we may say that *up to the time of* the Mystery of Golgotha, embodied pictures lived in man; but *after* the Mystery of Golgotha, matter-free pictures lived in man. *Before* the Mystery

of Golgotha, the Universe worked upon man in such a way that he could not attain to pictures free of the body, free of matter. *Since* the Mystery of Golgotha, the Universe has, as it were, withdrawn. Man has been transposed to an existence which only takes place in pictures.

What man felt before the Mystery of Golgotha as his connection with the Universe, that he related also to the Universe. He related human life on Earth to Heaven. This we can observe quite exactly. The Hebrew of old was clearly and distinctly conscious that the twelve tribes of old Israel were projections on Earth of the constellations of the Zodiac. The twelve-foldness of the Universe comes to expression in the life of man; and we may say that in those days the life of man was pictured as a result of the twelve-foldness of the Heavens, of the Zodiac. Every man felt the starry Heaven streaming into him; and above all a group of men felt themselves as a group into which the starry Heaven rayed. In the evolution of Hebrew antiquity we must go back to the time when we are told of the twelve sons of Jacob as the projection on Earth of the twelve regions of Heaven. Just as there was this in-streaming of the heavenly forces upon Earth-man in gray antiquity, so also, since in the different parts of the Earth's surface evolution came about at different times, in Europe we find a similar thing at a later time. We must go back to the Middle Ages and study the legends of King Arthur and his Round Table, those significant Celtic legends. For Mid-Europe developed later to the stage reached by the old Hebrews thousands of years before. Mid-Europe was only so far on at the time to which the Legends of Arthur and his Round Table are assigned. There was however, a difference. Hebrew antiquity evolved to the point where the in-streaming from the Universe still yielded embodied pictures. Then came the point of time when the body was withdrawn from the pictures, when the pictures had to be given a new substance. There was indeed a danger that, as regards his soul-life, man would pass completely into a picture-existence. This danger man did not at once recognise. Even Descartes was still floundering, and instead of saying: 'I think, therefore I am', he said the opposite of the truth: 'I think, therefore I am not'. For when we live in pictures, we really *are not*! When we live in mere thoughts, it is the surest sign that we are not. Thoughts must be filled with substance. In order that man might not continue to live in mere pictures, in order that inner substance might once more be in the human being, that Being intervened who entered through the Mystery of Golgotha. Hebrew antiquity was the first to meet with this intervention of the central force, which was now to give back reality to the human soul that had become



Grail picture



Parsifal figure

picture. This, however, was not at once understood. In the Middle Ages we have the last ramifications in the twelve around King Arthur's Table; but this was soon replaced by something else — the *Parsifal Legend*, which places One man over against the twelve, One man, who develops the twelve-foldness from out of his own inner centre. Thus, over against that picture which was essentially the Grail picture, must be the Parsifal picture, in which what man now possesses within him, rays out from the centre. The endeavour of those in the Middle Ages who wished to understand the Parsifal picture, who wished to make the Parsifal striving active in the human soul, was to bring into the picture-existence that could crystallise out in man after all the materiality had filtered

away — to bring into it true substance, inwardness of being. Whereas the Grail legend shows still the in-streaming from without, the Parsifal figure is now set over against it, raying out from the pictures that which can restore reality to them.

Inasmuch as the Parsifal Legend appeared in this form, it represented the striving of humanity in the Middle Ages to find the way to the *Christ within*. It represents an instinctive striving to understand that which lives as the Christ in the evolution of humanity. If one studies inwardly what was experienced in the form of this figure of Parsifal, and compares it with what is to be found in the modern creeds, one receives a strong impulse towards that which must happen today. People are now satisfied with the mere husk of the word 'Christ' and believe that they thus possess Christ, whereas even the theologians themselves do not possess Him but hold to the outer interpretation of the word. In the Middle Ages there was still so much direct consciousness left, that by comprehending the representative of humanity, Parsifal, men were able to wrest their way upwards to the form of Christ. If we reflect on this we receive the impression of man's place in the whole Universe. Throughout the world of Nature, conversion of forces prevails. In *man alone* matter is thrown out by pure thought. That matter which is actually cast out of the human being by pure thought is also *annihilated, it passes into nothingness*.

If we reflect upon this, we must think of all Earth-existence as follows: Here is the Earth, and on the Earth, man; into man passes matter. Everywhere else it is transmuted. *In man it is annihilated*. The material Earth will pass away in proportion as matter is destroyed by man. When, some day, all the substance of the Earth will have passed through the human organism, being used there for thinking, the Earth will cease to be a cosmic body. And what man will have gained from this cosmic Earth will be pictures. These however, will have a new reality, they will have preserved an original reality. This reality is that which proceeds from the force which, as central force, makes itself felt through the Mystery of Golgotha. Thus, when we look to the end of the Earth, what do we see? The end of the Earth will come when all its substance is destroyed as described above. Man will then possess pictures of all that has taken place in earthly evolution. At the end of the earthly period the Earth will have sunk into the Universe, and there *would* remain merely pictures, without reality. What gives them reality however, is the fact of the Mystery of Golgotha having been there in humanity; that gives these pictures inner reality for the life to come. Through the Mystery of Golgotha, a new beginning is set for the future existence of the Earth.

From this we can see that what is contained in our stream of evolution is not to be regarded merely as a continuous stream, where one thing is always related to another as effect to cause, but we must so consider the Earth-evolution that we recognise in the first place a *pre-Christian evolution*, out of which came AI that men were able to think at that time, for what they were able then to think was contained in the Father-God, was imparted to the Earth through Him. The nature and work of the Father-God however, was such that what He created as Earth-evolution was given over to that part of Earth-evolution that tends to pass away. *A new beginning was made with the Mystery of Golgotha*. Of all that went before only pictures were to remain, as it were descriptive paintings of the world. These pictures were, however, to receive new reality through that which entered as Being into the evolution of the Earth through the Mystery of Golgotha. That is the cosmic significance of the Mystery of Golgotha; that is what I meant years ago, when I said: Christianity will not be understood until *it has penetrated even into the physics of our Earth*, until we understand how, even in physical things, the Christian substance works in the world-existence. We have not grasped Christianity until we can say to ourselves: Precisely in the *domain of heat* such a change is taking place in man that through it matter is being destroyed and a purely picture-existence comes forth out of the matter; but through the union of the human soul with the Christ-substance this picture-existence is made into a new reality.

If we compare this thought, showing us the interweaving of what man has transformed into soul and spirit with physical existence, if we compare this whole thought with the cheerless scientific thoughts of modern times which can lead only to a blind alley, we shall see its great and deep significance, and we shall see how we are to regard thoughts like those of Julius Robert Mayer, which are in reality that which falls away from cosmic existence, even as ice and snow melt before the Sun. Man however, retains these pictures, and they derive a reality for the future because a *new substance* has laid hold of them, the substance which has passed through the Mystery of Golgotha.

And through this, the thought of freedom is established for man and is united with scientific thinking. This comes about because man says: Not 'conservation of matter and of energy'; but, 'matter and energy have a temporal life allotted to them.' We take part not in the developing material Universe, but in its decay, and we

have now to raise ourselves out of it to mere picture-existence and permeate ourselves with That to which we can only devote ourselves with our free-will, to the Christ-Being. For He so stands in human evolution that man's connection with Him can only be a *free* one. Anyone who seeks to be constrained to recognise Christ cannot find His Kingdom, he can rise only to the Universal Father-God, who however, in our world, has now only a share in a decaying world, and precisely on account of the decay of His own world, has sent the Son. Spiritual cosmogony must unite with natural cosmogony, but they must unite in man-and that by a free act. Hence we can only say of one who wishes to *prove* freedom that he is still at an ancient heathen standpoint. All proofs of freedom fail; our task is not to prove freedom, but to take hold of it. It is grasped when one understands the nature of sense-free thinking. Sense-free thinking however needs again the connection with the world, and this connection it does not find unless it unites with what has been introduced into the evolution of the world as new substance through the Mystery of Golgotha.

Thus the bridge between natural and moral cosmogony lies in a right understanding of Christianity. It might at first appear very strange that just those who uphold the modern creeds — as well as ancient creeds that extend their influence into modern life — do not desire a science leading towards Christianity, but desire a science as materialistic as possible, so that an unscientific faith may hold its own alongside of it.

In this connection we might say: Modern materialism and reactionary Christianity are very closely related, for the latter has driven mankind into the conception that things spiritual must not be penetrated by true knowledge. Knowledge must be kept free from the Spiritual, must be kept away from it, must extend only to the material. Thus on the one hand stands the advocate of one or other creed, who says: Science extends only to what is sense-perceptible; all else must be grasped by faith alone. On the other side stands the materialist, who says: science extends only to what is sense-perceptible; and faith I have given up.

Spiritual Science is not related to materialism. Modern creeds are indeed very closely related to it; that is to say, old creeds as introduced into modern life are indeed closely related to materialism.

I think I have now shown how the possibility of permeating the moral law with what we can know of nature, and conversely, of permeating nature-knowledge with moral law — is bound up with Spiritual Science. For the phantom which figures today in external science as Man, that delusive picture which shows Man as a configuration of mineral substance, simply does not exist. Man is just as much organised into the Fluid element as into the Solid; he is organised also into the element of Air, and above all, into that of Heat. When we come as far as Heat, we find the transition to the soul-and-spirit nature, for in Heat we have already the transition from Space to Time; and that which is of the soul flows in the temporal. Beyond Heat we pass more and more out of Space into Time, and it becomes possible, by the roundabout way here indicated, to seek the moral in the physical. Indeed it might be said that one who thinks short-sightedly will scarcely arrive at the connection of the moral with the physical in human nature — for one might certainly go to meet death as a miscreant without dislocating a limb, but remaining a well-formed man. The *heat* condition in the man is however not examined. The heat condition is changed far more subtly and delicately than is supposed, and works back upon what man carries through death. Today the method of study is such that we look up into abstraction, we have our thoughts up there; and we look *down* into the physical-material. We do not make the transition unless we pass over to the *inwardly stirring heat* lying *between these*, which has, at least for human instinct, still a physical as well as a soul aspect. We can develop warmth for our fellows morally — soul-warmth, which is the counterpart of physical warmth. This soul-warmth however, does not arise through a physical change in the sense of Julius Robert Mayer's theory; it arises — but how does it arise? I might say that here it gives palpable evidence of itself. Why do we speak of 'warm' feelings? Because we feel, we experience that the feeling we call 'warm' gives the picture of outer, physical warmth. The warmth percolates into the picture. What today is only soul-warmth will in a future cosmic existence play a physical part, for the Christ-Impulse will live therein. What today is simply picture-warmth in our world of Feeling-will live on, that it may become physical when the Earth-warmth has disappeared, for it is what the Christ-Substance, the Christ-Nature is. Let us try to find that delicate connection between external physical warmth and that which we instinctively call warmth of feeling; let us try to find it. Let us go to what Goethe said in his book called 'The Material-Moral effects of Colours', let us see how in his colour-perception he places the cooling colours on one side, and the warming colours on the other; how *he unites the material-moral with the physical conditions* which can to a certain extent be measured with a thermoscope, and shows how the element of soul interplays with the external and physical. Then we arrive at one

aspect of how a moral cosmogony can be found in the study of Goethe.

The Jesuits of course hate this alliance. Therefore the best book on Goethe written out of the Jesuit thought is a poisonous book, a terrible book, though much more ingenious and effective than anything written about him elsewhere, because written with inner Jesuitical rhetoric. I refer to the three-volumed work on Goethe by Father Baumgartner. It is full of spite and malice, but it is both powerful and effective. We may be very sure that in that world, of which many people have no conception, a world which opposes us too, Goethe is better known than he is among more cultured circles. Those who appreciate Goethe and understand him from the positive standpoint, form but a small community. There is a large community of those who hate him; we do not conceive it half large enough. Some time ago I pointed out how little people are awake to what lives among us — I once said I would have liked counts to be taken at the door of all those who knew the German work, Weber's *Thirteen Limetrees*, a work that was truly Roman Catholic in the most positive sense. I should like to know how many it would be! The result would have been deplorable. Yet soon after publication this work ran through hundreds of editions. Have those who bring humanity forward any idea in their waking consciousness of how widespread these things are? That they have a widespread effect is certain; so too have those things from which the conflict with us proceeds. Whereas we have a small community which holds to Goethe, but is yet never able to point to anything of importance from Goethe's wisdom, the Jesuit book on Goethe is written with great cleverness and acumen — and that is precisely what we need, that we may be filled with *spirit that is awake*. Spiritual Science will surely succeed if a wakeful spiritual life really takes root in us.

List of relevant literature.

By Rudolf Steiner:

Occult Science: An Outline

Theosophy: an Introduction to the Super-sensible Knowledge of the World and the Destination of Man

The Philosophy of Freedom

Christianity as Mystical Fact

Lectures and Lecture-Courses:

Macrocosm and Microcosm

Human Questions and Cosmic Answers

Man as Symphony of the Creative Word

Earthly and Cosmic Man

The Four Seasons and the Archangels

The Sun Mystery in the Course of Human History

Human and Cosmic Thought

Inner Realities of Evolution

Man in the light of Occultism, Theosophy and Philosophy

Christianity began as a Religion but is greater than all Religions

By other authors:

Physical and Ethereal Spaces. By George Adams

Projective Geometry. Creative Polarities in Space and Time. By Olive Whicher.

Reincarnation as a Phenomenon of Metamorphosis. By Gunther Wachsmuth

All the published works of Rudolf Steiner in English translation and in the original German, also the works of other authors on Anthroposophy, can be obtained from

Rudolf Steiner Press

35, Park Road,

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Catalogues are available.